OMB# 2050-0024; Expires 11/30/2011

SEND COMPLETED FORM TO: The Appropriate State or Regional Office.

United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (MARK ALL BOX(ES) THAT APPLY)

Reason for Submittal:

- ☐ To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location)
- ☒ To provide a Subsequent Notification (to update site identification information for this location)
- ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application
- ☒ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment # 2)
- ☐ As a component of the Hazardous Waste Report (If marked, see sub-bullet below)
  - ☐ Site was a TSD facility and/or generator of ≥1,000 kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup in one or more months of the report year (or State equivalent LQG regulations)

2. Site EPA ID Number

EPA ID Number: G U 6 5 7 1 9 9 9 5 1 9

3. Site Name

Name: Andersen Air Force Base

4. Site Location Information

Street Address: Explosive Ordnance Disposal Range, Tarague Beach

City, Town, or Village: Yigo | County:

State: GU | Country: United States of America | Zip Code: APO AP 96543

5. Site Land Type

☐ Private ☐ County ☐ District ☒ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

6. NAICS Code(s) for the Site (at least 5-digit codes)

A. 9 2 8 1 1 0 | C.

B. 4 9 3 9 1 0 | D.

7. Site Mailing Address

Street or P.O. Box: 36th Wing, Unit 14003

City, Town, or Village: Yigo

State: GU | Country: USA | Zip Code: APO AP 96543

8. Site Contact Person

First Name: Joseph | MI: | Last: Vinch

Title: Chief, Environmental Flight

Street or P.O. Box: 36 CES/CEV Unit 14007

City, Town or Village: Yigo

State: GU | Country: USA | Zip Code: APO AP 96543

Email: joseph.vinch@andersen.af.mil

Phone: 671-366-2556 | Ext.: | Fax: 671-366-5088

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner: United States Navy | Date Became Owner: 10/01/2009

Owner Type: ☐ Private ☐ County ☐ District ☒ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

Street or P.O. Box: 36th Wing, Unit 14003

City, Town, or Village: Yigo | Phone: 671-366-3600

State: GU | Country: United State of America | Zip Code: APO AP 96543

B. Name of Site's Operator: John W. Doucette, Base CommandingOfficer | Date Became Operator: 06/30/2010

Operator Type: ☐ Private ☐ County ☐ District ☒ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

10. Type of Regulated Waste Activity (at your site)
Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities; Complete all parts 1-7.

Y ☒ N ☐ **1. Generator of Hazardous Waste**
If "Yes", mark only one of the following – a, b, or c.

- ☒ a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs./mo.) or more of hazardous waste; **or** Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs./mo) of acute hazardous waste; **or** Generates, in any calendar month, **or** accumulates at any time, more than 100 kg/mo (220 lbs./mo) of acute hazardous spill cleanup material.
- ☐ b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs./mo) of non-acute hazardous waste.
- ☐ c. CESQG: Less than 100 kg/mo (220 lbs./mo) of non-acute hazardous waste.

If "Yes" above, indicate other generator activities.

Y ☐ N ☒ d. Short-Term Generator (generate from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section.

Y ☐ N ☒ e. United States Importer of Hazardous Waste

Y ☐ N ☒ f. Mixed Waste (hazardous and radioactive) Generator

Y ☐ N ☒ **2. Transporter of Hazardous Waste**
If "Yes", mark all that apply.
- ☐ a. Transporter
- ☐ b. Transfer Facility (at your site)

Y ☒ N ☐ **3. Treater, Storer, or Disposer of Hazardous Waste** Note: A hazardous waste permit is required for these activities.

Y ☐ N ☒ **4. Recycler of Hazardous Waste**

Y ☐ N ☒ **5. Exempt Boiler and/or Industrial Furnace**
If "Yes", mark all that apply.
- ☐ a. Small Quantity On-site Burner Exemption
- ☐ b. Smelting, Melting, and Refining Furnace Exemption

Y ☒ N ☐ **6. Underground Injection Control**

Y ☐ N ☒ **7. Receives Hazardous Waste from Off-site**

B. Universal Waste Activities; Complete all parts 1-2.

Y ☐ N ☒ **1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes", mark all that apply.**

- a. Batteries ☐
- b. Pesticides ☐
- c. Mercury containing equipment ☐
- d. Lamps ☐
- e. Other (specify) _____ ☐
- f. Other (specify) _____ ☐
- g. Other (specify) _____ ☐

Y ☐ N ☒ **2. Destination Facility for Universal Waste**
Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities; Complete all parts 1-4.

Y ☐ N ☒ **1. Used Oil Transporter**
If "Yes", mark all that apply.
- ☐ a. Transporter
- ☐ b. Transfer Facility (at your site)

Y ☐ N ☒ **2. Used Oil Processor and/or Re-refiner**
If "Yes", mark all that apply.
- ☐ a. Processor
- ☐ b. Re-refiner

Y ☐ N ☒ **3. Off-Specification Used Oil Burner**

Y ☐ N ☒ **4. Used Oil Fuel Marketer**
If "Yes", mark all that apply.
- ☐ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- ☐ b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K

- You must check with your State to determine if you are eligible to manage laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K

☐ 1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories **See the Item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:**

- ☐ a. College or University
- ☐ b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university
- ☐ c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university

☐ 2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

11. Description of Hazardous Waste

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

D003						

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-Regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

12. Notification of Hazardous Secondary Material (HSM) Activity

Y ☐ N ☒ Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes", you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

13. Comments

Section 10, Box A, Item #3 Continued:

Treatment (open burn/detonation) of D003 waste (old/spent munitions) in accordance with RCRA Part B Permit #GUS002 issued by Guam EPA 10 December 2004 and effective 21 January 2009 by Subsequent Notification of Regulated Waste Activity and as a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #1)

14. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. For the RCRA Hazardous Waste Part A Permit Application, all owner(s) and operator(s) must sign (see 40 CFR 270.10(b) and 270.11).

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
[signature]	JOHN DONCETTE 36WG/CC	08/31/2011

EPA ID Number | G | U | 6 | 5 | 7 | 1 | 9 | 9 | 9 | 5 | 1 | 9 |

OMB#: 2050-0034; Expires 7/31/2012

United States Environmental Protection Agency

HARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact

First Name: Joseph | MI: | Last Name: Vinch

Contact Title: Chief, Environmental Flight

Phone: 671-366-2556 | Ext.: | Email: joseph.vinch@andersen.af.mil

2. Facility Permit Contact Mailing Address

Street or P.O. Box: 36 CES/CEVQ Unit 14007, Building 18001, Arc Light Blvd.

City, Town, or Village: Yigo

State: GU

Country: United States of America | Zip Code: 96543

3. Operator Mailing Address and Telephone Number

Street or P.O. Box: 36 CES/CEVQ Unit 14007, Building 18001, Arc Light Blvd.

City, Town, or Village: APO

State: AP | Phone: 671-366-2556

Country: | Zip Code: 96543-4007

4. Facility Existence Date

Facility Existence Date (mm/dd/yyyy): 10/30/1980

5. Other Environmental Permits

A. Facility Type (Enter code)	B. Permit Number	C. Description
		*SEE ATTACHED SHEETS FOR LIST OF PERMITS

6. Nature of Business:

7. Process Codes and Design Capacities – Enter information in the Section on Form Page 3

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in item 8.

B. PROCESS DESIGN CAPACITY – For each code entered in item 7.A; enter the capacity of the process.

1. AMOUNT – Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.
2. UNIT OF MEASURE – For each amount entered in item 7.B(1), enter the code in item 7.B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.

C. PROCESS TOTAL NUMBER OF UNITS – Enter the total number of units for each corresponding process code.

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
Disposal		
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectares-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure Listed Below
Storage		
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure Listed Below
Treatment		
T01	Tank Treatment	Gallons Per Day; Liters Per Day
T02	Surface Impoundment	Gallons Per Day; Liters Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; or Million BTU Per Hour

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity (for T81 – T94)
Treatment (Continued)		
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Liters Per Hour; Kilograms Per Hour; or Million BTU Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, or Refining Furnace	
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed in 40 CFR 260.10	
T94	Containment Building Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTU Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million BTU Per Hour
Miscellaneous (Subpart X)		
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; or Million BTU Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

Unit of Measure	Unit of Measure Code
Gallons	G
Gallons Per Hour	E
Gallons Per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V
Short Tons Per Hour	D
Short Tons Per Day	N
Metric Tons Per Hour	W
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	X
Million BTU Per Hour	X
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
BTU Per Hour	I

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. PROCESS DESIGN CAPACITY (2) Unit of Measure	C. Process Total Number of Units	For Official Use Only
X	1	S	0	2	533.788	G	001	
	1	X	0	1	0.05	N	001	
	2	X	0	1	0.30	N	001	
	3							
	4							
	5							
	6							
	7							
	8							
	9							
1	0							
1	1							
1	2							
1	3							

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the line sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04, and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04, and X99 process codes)

Line Number (Enter #s in sequence with Item 7)		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	(2) Unit of Measure	C. Process Total Number of Units	For Official Use Only
X	2	T	0	4	100.00	U	001	

9. Description of Hazardous Wastes - Enter Information in the Sections on Form Page 5

A. EPA HAZARDOUS WASTE NUMBER – Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each listed waste entered in Item 9.A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Item 9.A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in Item 9.B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all listed hazardous wastes.

For non-listed waste: For each characteristic or toxic contaminant entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. **Enter the first two as described above.**
2. **Enter "000" in the extreme right box of Item 9.D(1).**
3. **Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 9.E.**

2. PROCESS DESCRIPTION: If code is not listed for a process that will be used, describe the process in Item 9.D(2) or in Item 9.E(2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. **Select one of the EPA Hazardous Waste Numbers and enter it in Item 9.A. On the same line complete Items 9.B, 9.C, and 9.D by estimating the total annual quantity of the waste and describing all the processes to be used to store, treat, and/or dispose of the waste.**
2. **In Item 9.A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Item 9.D.2 on that line enter "included with above" and make no other entries on that line.**
3. **Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.**

EXAMPLE FOR COMPLETING Item 9 (shown in line numbers X-1, X-2, X-3, and X-4 below) – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter Code)								(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))
X	1	K	0	5	4	900	P	T	0	3	D	8	0			
X	2	D	0	0	2	400	P	T	0	3	D	8	0			
X	3	D	0	0	1	100	P	T	0	3	D	8	0			
X	4	D	0	0	2											Included With Above

EPA ID Number | G | U | 6 | 5 | 7 | 1 | 9 | 9 | 9 | 5 | 1 | 9 |

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9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*

Line Number		A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter Code)									(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))
	1	D 0 0 3	5,000	P	X	0	1							Open Burning (OB)
	2	D 0 0 3	30,000	P	X	0	1							Open Detonation (OD)
	3													
	4													
	5													
	6													
	7													
	8													
	9													
1	0													
1	1													
1	2													
1	3													
1	4													
1	5													
1	6													
1	7													
1	8													
1	9													
2	0													
2	1													
2	2													
2	3													
2	4													
2	5													
2	6													
2	7													
2	8													
2	9													
3	0													
3	1													
3	2													
3	3													
3	4													
3	5													
3	6													

10. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

11. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

12. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas (see instructions for more detail).

13. Comments

A.) Section 5, Other Environmental Permits are listed in attached sheets.

B.) Section 7, Process Codes, line number X1 refers to 0.05 Short Tons Per Day = 100 Pounds Net Explosive Weight (NEW) for Open Burning and line number X2 refers to 0.30 Short Tons Per Day = 600 Pounds NEW for Open Detonation.

C.) Section 10, 11, and 12 are attached in Part B of this application.

EPA ID NO. GU6571999519

HAZARDOUS WASTE PERMIT APPLICATION ATTACHMENT
ANDERSEN AIR FORCE BASE, GUAM

SECTION 5. OTHER ENVIRONMENTAL PERMITS

Description	Permit Type	Permit Number
DW-AF1	UIC for Disposal of Storm Water Runoff	U1103075
DW-AF2	UIC for Disposal of Storm Water Runoff	U1103076
DW-AF3	UIC for Disposal of Storm Water Runoff	U1103077
DW-AF4	UIC for Disposal of Storm Water Runoff	U1103078
DW-AF5	UIC for Disposal of Storm Water Runoff	U1103079
DW-AF6	UIC for Disposal of Storm Water Runoff	U1103080
DW-AF7	UIC for Disposal of Storm Water Runoff	U1103081
DW-AF8	UIC for Disposal of Storm Water Runoff	U1103082
DW-AF9	UIC for Disposal of Storm Water Runoff	U1103083
DW-AF10	UIC for Disposal of Storm Water Runoff	U1103084
DW-AF11	UIC for Disposal of Storm Water Runoff	U1103085
DW-AF12	UIC for Disposal of Storm Water Runoff	U1103086
DW-AF13	UIC for Disposal of Storm Water Runoff	U1103087
DW-AF14	UIC for Disposal of Storm Water Runoff	U1103088
DW-AF15	UIC for Disposal of Storm Water Runoff	U1103089
DW-AF16	UIC for Disposal of Storm Water Runoff	U1103090
DW-AF17	UIC for Disposal of Storm Water Runoff	U1103091
DW-AF18	UIC for Disposal of Storm Water Runoff	U1103092
DW-AF19	UIC for Disposal of Storm Water Runoff	U1103093
DW-AF20	UIC for Disposal of Storm Water Runoff	U1103094
DW-AF21	UIC for Disposal of Storm Water Runoff	U1103095
DW-AF22	UIC for Disposal of Storm Water Runoff	U1103096
DW-AF23	UIC for Disposal of Storm Water Runoff	U1103097
DW-AF24	UIC for Disposal of Storm Water Runoff	U1103098
DW-AF25	UIC for Disposal of Storm Water Runoff	U1103099
DW-AF26	UIC for Disposal of Storm Water Runoff	U1103100
DW-AF28	UIC for Disposal of Storm Water Runoff	U1103101
DW-AF29	UIC for Disposal of Storm Water Runoff	U1103102
DW-AF30	UIC for Disposal of Storm Water Runoff	U1103103
DW-AF31	UIC for Disposal of Storm Water Runoff	U1103104
DW-AF32	UIC for Disposal of Storm Water Runoff	U1103105
DW-AF33	UIC for Disposal of Storm Water Runoff	U1103106
DW-AF34	UIC for Disposal of Storm Water Runoff	U1103107
DW-AF35	UIC for Disposal of Storm Water Runoff	U1103108
DW-AF36	UIC for Disposal of Storm Water Runoff	U1103109
DW-AF37	UIC for Disposal of Storm Water Runoff	U1103110
DW-AF38	UIC for Disposal of Storm Water Runoff	U1103111
DW-AF39	UIC for Disposal of Storm Water Runoff	U1103112
DW-AF40	UIC for Disposal of Storm Water Runoff	U1103113
DW-AF41	UIC for Disposal of Storm Water Runoff	U1103114
DW-AF42	UIC for Disposal of Storm Water Runoff	U1103115
DW-AF43	UIC for Disposal of Storm Water Runoff	U1103116
DW-AF44	UIC for Disposal of Storm Water Runoff	U1103117
DW-AF45	UIC for Disposal of Storm Water Runoff	U1103118
DW-AF46	UIC for Disposal of Storm Water Runoff	U1103119

EPA ID NO. GU6571999519

HAZARDOUS WASTE PERMIT APPLICATION ATTACHMENT
ANDERSEN AIR FORCE BASE, GUAM

SECTION 5. OTHER ENVIRONMENTAL PERMITS

Description	Permit Type	Permit Number
DW-AF47	UIC for Disposal of Storm Water Runoff	U1103120
DW-AF48	UIC for Disposal of Storm Water Runoff	U1103121
DW-AF49	UIC for Disposal of Storm Water Runoff	U1103122
DW-AF50	UIC for Disposal of Storm Water Runoff	U1103123
DW-AF51	UIC for Disposal of Storm Water Runoff	U1103124
DW-AF52	UIC for Disposal of Storm Water Runoff	U1103125
DW-AF53	UIC for Disposal of Storm Water Runoff	U1103126
DW-AF54	UIC for Disposal of Storm Water Runoff	U1103127
DW-AF55	UIC for Disposal of Storm Water Runoff	U1103128
DW-AF56	UIC for Disposal of Storm Water Runoff	U1103129
DW-AF56A	UIC for Disposal of Storm Water Runoff	U1103130
DW-AF57	UIC for Disposal of Storm Water Runoff	U1103131
DW-AF58	UIC for Disposal of Storm Water Runoff	U1103132
DW-AF59	UIC for Disposal of Storm Water Runoff	U1103133
DW-AF60	UIC for Disposal of Storm Water Runoff	U1103134
DW-AF61	UIC for Disposal of Storm Water Runoff	U1103135
DW-AF62	UIC for Disposal of Storm Water Runoff	U1103136
DW-AF63	UIC for Disposal of Storm Water Runoff	U1103137
DW-AF64	UIC for Disposal of Storm Water Runoff	U1103138
DW-AF65	UIC for Disposal of Storm Water Runoff	U1103139
DW-AF68	UIC for Disposal of Storm Water Runoff	U1103140
DW-AF69	UIC for Disposal of Storm Water Runoff	U1103141
DW-AF70	UIC for Disposal of Storm Water Runoff	U1103142
DW-AF71	UIC for Disposal of Storm Water Runoff	U1103143
DW-AF72	UIC for Disposal of Storm Water Runoff	U1103144
DW-AF73	UIC for Disposal of Storm Water Runoff	U1103145
DW-AF74	UIC for Disposal of Storm Water Runoff	U1103146
DW-AF74A	UIC for Disposal of Storm Water Runoff	U1103147
DW-AF75	UIC for Disposal of Storm Water Runoff	U1103148
DW-AF76	UIC for Disposal of Storm Water Runoff	U1103149
DW-AF77	UIC for Disposal of Storm Water Runoff	U1103150
DW-AF78	UIC for Disposal of Storm Water Runoff	U1103151
DW-AF79	UIC for Disposal of Storm Water Runoff	U1103152
DW-AF80	UIC for Disposal of Storm Water Runoff	U1103153
DW-AF80A	UIC for Disposal of Storm Water Runoff	U1103154
DW-AF81	UIC for Disposal of Storm Water Runoff	U1103155
DW-AF82	UIC for Disposal of Storm Water Runoff	U1103156
DW-AF83	UIC for Disposal of Storm Water Runoff	U1103157
DW-AF84	UIC for Disposal of Storm Water Runoff	U1103158
DW-AF85	UIC for Disposal of Storm Water Runoff	U1103159
DW-AF86	UIC for Disposal of Storm Water Runoff	U1103160
DW-AF87	UIC for Disposal of Storm Water Runoff	U1103161
DW-AF88	UIC for Disposal of Storm Water Runoff	U1103162
DW-AF89	UIC for Disposal of Storm Water Runoff	U1103163
DW-AF90	UIC for Disposal of Storm Water Runoff	U1103164

EPA ID NO. GU6571999519

HAZARDOUS WASTE PERMIT APPLICATION ATTACHMENT
ANDERSEN AIR FORCE BASE, GUAM

SECTION 5. OTHER ENVIRONMENTAL PERMITS

Description	Permit Type	Permit Number
DW-AF91	UIC for Disposal of Storm Water Runoff	U1103165
DW-AF92	UIC for Disposal of Storm Water Runoff	U1103166
DW-AF93	UIC for Disposal of Storm Water Runoff	U1103167
DW-AF94	UIC for Disposal of Storm Water Runoff	U1103168
DW-AF95	UIC for Disposal of Storm Water Runoff	U1103169
DW-AF96	UIC for Disposal of Storm Water Runoff	U1103170
DW-AF97	UIC for Disposal of Storm Water Runoff	U1103171
DW-AF98	UIC for Disposal of Storm Water Runoff	U1103172
DW-AF99	UIC for Disposal of Storm Water Runoff	U1103173
DW-AF100	UIC for Disposal of Storm Water Runoff	U1103174
DW-AF101	UIC for Disposal of Storm Water Runoff	U1103175
DW-AF102	UIC for Disposal of Storm Water Runoff	U1103176
DW-AF103	UIC for Disposal of Storm Water Runoff	U1103177
Title V Permit SIC 9711	Title V - Clean Air	FO-001
AF-1	Production Well	0409-01P
AF-2	Production Well	0409-02P
AF-3	Production Well	0409-03P
AF-4	Production Well	0409-04P
AF-5	Production Well	0409-05P
BPM-1	Production Well	0407-055P
MW-1	Production Well	0407-056P
MW-2	Production Well	0407-057P
MW-3	Production Well	0407-058P
MW-5	Production Well	0407-060P
MW-6	Production Well	0407-061P
MW-7	Production Well	0407-062P
MW-8	Production Well	0407-063P
MW-9	Production Well	0407-064P
TMT-1	Production Well	0407-065P
	Solid Waste - Med Waste Sterilization&Maceration	Pending
	Solid Waste - Landfill	Pending
	Solid Waste - Hardfill	Pending
	Solid Waste - Recycling	04-032PRO
	Solid Waste - Concrete Crusher (Processing)	Pending
	Solid Waste - Tub Grinder (Processing)	Pending
	Petroleum Bulk Storage	APST - 826
	Petroleum Bulk Storage	APST - 827
	Petroleum Bulk Storage	APST - 828
	Petroleum Bulk Storage	APST - 829
	Petroleum Bulk Storage	APST - 830
	Petroleum Bulk Storage	APST - 831

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APPENDICES

SECTION I - GENERAL PERMIT CONDITIONS

I.A. EFFECT OF PERMIT

The Permittee is allowed to treat hazardous waste at the OB/OD unit in accordance with the conditions of this Permit. Any treatment of hazardous waste not authorized in this Permit is prohibited, except for treatment of hazardous waste, which occurs in RCRA permit-exempt units. Subject to Part X.A. (Adopts by reference 40 CFR 270.4) of Guam's Hazardous Waste Management Regulations (herein referred to as GHWMRs), compliance with this Permit generally constitutes compliance, for purposes of enforcement, with 10 Guam Code Annotated (GCA), Chapter 51, Solid Waste Management and Litter Control (Subtitle C of RCRA). Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, any infringement of state or local law or regulations, or preclude compliance with any other Federal, State, and/or local laws and/or regulations governing the treatment and handling of explosives. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA, except as provided in 40 CFR 270.4(a); Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment. Part X.A. [Adopts by reference 40 CFR 270.4, 270.30(g)] in the GHWMRs.

I.B. PERMIT ACTIONS

I.B.1. Permit Modification, Revocation and Reissuance, and Termination

This Permit may be modified, revoked and reissued, or terminated for cause, as specified in Part X.A., L, M, N, O, P, Q, and R (Adopts by reference 40 CFR 270.41, 270.42, and 270.43) of the GHWMRs. The filing of a request for a Permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any Permit Condition. Part X.A. [Adopts by reference 40 CFR 270.4(a) and 270.30(f)] of the GHWMRs.

I.B.2. Permit Renewal

This Permit may be renewed as specified in Part X.A. [Adopts by reference 40 CFR 270.30(b)] of the GHWMRs and Permit Condition I.E.2. Review of any application for a Permit renewal shall consider improvements in the state of control and measurement technology, as well as changes in applicable regulations. Part X.A. [Adopts by reference 40 CFR 270.30(b), HSWA Section 212] of the GHWMRs.

I.C. SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit, or the application

of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. Part XI.A. [Adopts by reference 40 CFR 124.16(a)] of the GHWMRs.

I.D. DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in Parts XI.A., II.A., VI.A., VIII.A., IX.A., and X.A. [Adopts by reference 40 CFR Parts 124, 260, 264, 266, 268, and 270] of the GHWMRs, unless this Permit specifically provides otherwise; where terms are not defined in the regulations or the Permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term. "Administrator" means the Administrator of Guam EPA, or his/her designee or authorized representative. “Foreign Source” or “Foreign Country” means any place, location, point, or area outside the territory of Guam.

I.E. DUTIES AND REQUIREMENTS

I.E.1. Duty to Comply

The Permittee shall comply with all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency Permit. Any Permit noncompliance, other than noncompliance authorized by an emergency Permit, constitutes a violation of RCRA, and 10 GCA Chapter 51 (Solid Waste Management and Litter Control) and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application. Part X.A. [Adopts by reference 40 CFR 270.30(a)] of the GHWMRs.

I.E.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new Permit at least 180 days prior to Permit expiration. Part X.A. [Adopts by reference 40 CFR 270.10(h), 270.30(b)] of the GHWMRs.

I.E.3. Permit Expiration

Pursuant to Part X.A., and T. [Adopts by reference 40 CFR 270.50] of the GHWMRs, this Permit shall be effective for a fixed term of three (3) years as described under Part X.S. [Adopts by reference 40 CFR 270.50(a) as amended] of the GHWMRs. As long as Guam EPA is the Permit issuing authority, this Permit and all conditions herein will remain in effect beyond the Permit's expiration date, if the Permittee has submitted a timely, complete application (see Parts X. A, D, E, and F [adopts by reference 40 CFR 270.10, 270.13 through 270.29] of the GHWMRs and, if through no fault of the Permittee, the Administrator has not issued a new Permit, as set forth in Part X.A., and U. [Adopts by reference 40 CFR 270.51] of the GHWMRs.

I.E.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee, in an enforcement action, that it would have been necessary to halt or reduce the Permitted activity in order to maintain compliance with the conditions of this Permit. Part X.A. [Adopts by reference 40 CFR 270.30(c)] of the GHWMRs.

I.E.5. Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures, as are reasonable, to prevent significant adverse impacts on human health or the environment. Part X.A. [Adopts by reference 40 CFR 270.30(d)] of the GHWMRs.

I.E.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. Part X.A. [Adopts by reference 40 CFR 270.30(e)] of the GHWMRs.

I.E.7. Duty to Provide Information

The Permittee shall furnish to the Administrator, within a reasonable time, any relevant information which the Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Administrator, upon request, copies of records required to be kept by this Permit. Part X.A. [Adopts by reference 40 CFR 264.74(a), 270.30(h)] of the GHWMRs.

I.E.8. Inspection and Entry

Pursuant to Part X.A. [Adopts by reference 40 CFR 270.30(i)] of the GHWMRs, the Permittee shall allow the Administrator, or an authorized representative, upon the presentation of credentials and other documents, as may be required by law, to:

I.E.8.a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

I.E.8.b. Have access to and copy, at reasonable times, any records that must be kept under the

conditions of this Permit;

I.E.8.c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

I.E.8.d. Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.E.9. Monitoring and Records

The Administrator may require such testing by the Permittee and may make such modifications to this Permit deemed necessary to ensure implementation of new regulations or requirements, or to ensure protection of human health and the environment.

I.E.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Part III.A. [Adopts by reference Appendix I of 40 CFR Part 261] of the GHWMRs or an equivalent method approved by the Administrator. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, Standard Methods of Wastewater Analysis, or an equivalent method, as specified in the Waste Analysis Plan (Appendix A). Part X.A. [Adopts by reference 40 CFR 270.30(j)(1)] of the GHWMRs.

I.E.9.b. The Permittee shall retain records of all monitoring information, including, as applicable, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this Permit, the certification required by Part X.VI. [Adopts by reference 40 CFR 264.73(b)(9)] of the GHWMRs, and records of all data used to complete the application for this Permit for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application. These periods may be extended by request of the Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility. Part VI.A. and X.A. [Adopts by reference 40 CFR 264.74(b) and 270.30(j)(2)] of the GHWMRs. These requirements will also be applicable to open burning/open detonation units if groundwater monitoring is required.

I.E.9.c. Pursuant to Part X.A. [Adopts by reference 40 CFR 270.30(j)(3)] of the GHWMRs, records of monitoring information shall specify:

i. The dates, exact place, and times of sampling or measurements

ii. The individuals who performed the sampling or measurements

iii. The date’s analyses were performed

iv. The individuals who performed the analyses

v. The analytical techniques or methods used and

vi. The results of such analyses.

I.E.10. Reporting Planned Changes

The Permittee shall give notice to the Administrator, as soon as possible, of any planned physical alterations or additions to the Permitted facility. Part X.A. [Adopts by reference 40 CFR 270.30(l)(1)] of the GHWMRs.

I.E.11. Reporting Anticipated Noncompliance

The Permittee shall give advance notice to the Administrator of any planned changes in the permitted facility or activity, which may result in noncompliance with Permit requirements. Part X.A. [Adopts by reference 40 CFR 270.30(l)(2)] of the GHWMRs.

I.E.12. Transfer of Permits

This Permit is not transferable to any person, except after notice to the Administrator. The Administrator may require modification or revocation and reissuance of the Permit pursuant to Part X.A. [Adopts by reference 40 CFR 270.40] of the GHWMRs. Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of Parts VI.A. and X.A. [Adopts by reference 40 CFR Parts 264 and 270] of the GHWMRs and this Permit. Parts X.A. and VI.A. [Adopts by reference 40 CFR 270.30(l)(3) and 264.12(c)] of the GHWMRs.

I.E.13. Eight Hour Reporting

I.E.13.a. The Permittee shall report to the Administrator any noncompliance, which may endanger health or the environment. Any such information shall be reported orally within eight (8) hours from the time the Permittee becomes aware of the circumstances. The report shall include the following:

i. Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

ii. Any information of a release or discharge of hazardous waste, or of a fire or explosion from the hazardous waste management facility which could threaten the environment or human health outside the facility.

I.E.13.b. The description of the occurrence and its cause shall include:

i. Name, address, and telephone number of the owner or operator;

ii. Name, address, and telephone number of the facility;

iii. Date, time, and type of incident;

iv. Name and quantity of materials involved;

v. The extent of injuries, if any;

vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

vii. Estimated quantity and disposition of recovered material that resulted from the incident.

I.E.13.c. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and, if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Administrator may waive the five day written notice requirement in favor of a written report within fifteen (15) days. Part X.A. [Adopts by reference 40 CFR 270.30(l)(6)] of the GHWMRs.

I.E.14. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, Permit Conditions I.E.10.–14., at the time monitoring reports are submitted. The reports shall contain the information listed in Permit Condition I.E.13. Part X.A. [Adopts by reference 40 CFR 270.30(l)(10)] of the GHWMRs.

I.E.15. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application or in any report to the Administrator, the Permittee shall promptly submit such facts or information. Part X.A. [Adopts by reference 40 CFR 270.30(l)(11)] of the GHWMRs.

I.F. SIGNATORY REQUIREMENT

All applications, reports, or information submitted to or requested by the Administrator, his/her designee, or authorized representative, shall be signed and certified in accordance with Part X.A. [Adopts by reference 40 CFR 270.11 and 270.30(k)] of the GHWMRs.

I.G. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE ADMINISTRATOR

All applications, reports, notifications, or other submissions which are required by this Permit to be sent or given to the Administrator should be sent by certified mail or given to:

Administrator
Guam Environmental Protection Agency
P.O. Box 22439, GMF
Barrigada, Guam 96921

Attn: Air and Land Division

(671) 475-1609: Administrator Air & Land Programs
(671) 475- 1658/59: Hazardous Waste Program

I.H. CONFIDENTIAL INFORMATION

In accordance with Part X.A. [Adopts by reference 40 CFR 270.12] of the GHWMRs, the Permittee may claim confidential, any information required to be submitted by this Permit.

I.I. DOCUMENTS TO BE SUBMITTED AFTER PERMIT ISSUANCE

The Permittee shall submit the following documents to the Administrator by the date shown:

Contingent Post-Closure Care Plan ninety (90) days from the date that the Permittee or Administrator determines that the hazardous waste management unit cannot be clean-closed pursuant to Permit Condition V.

Monitoring plans for Groundwater as described in Permit Condition IV.

Schedule and deliverables for the Corrective Action Program as described in Permit Condition VII.

I.J. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittee shall maintain at the facility, until closure is completed and certified by an independent, registered professional engineer, the following documents, and all amendments, revisions and modifications to these documents:

Waste Analysis Plan, as required by Part VI.A. [Adopts by reference 40 CFR 264.13] of the GHWMRs and this Permit.

Inspection schedules, as required by Part VI.A. [Adopts by reference 40 CFR 264.15(b)(2)] of the GHWMRs and this Permit.

Personnel training documents and records, as required by Part VI.A. [Adopts by reference 40 CFR 264.16(d)] of the GHWMRs and this Permit.

Contingency Plan, as required by Part VI.A. [Adopts by reference 40 CFR 264.53(a)] of the GHWMRs and this Permit.

Operating record, as required by Part VI.A. [Adopts by reference 40 CFR 264.73] of the GHWMRs and this Permit.

Closure Plan, as required by Part VI.A. [Adopts by reference 40 CFR 264.112(a)] of the GHWMRs and this Permit.

Contingent Post-Closure Plan and other plans as required by Part VI.A. [Adopts by reference 40 CFR 264.118 (a)] of the GHWMRs, Permit Conditions I.I and V, Contingent Post-Closure Care.

All other documents required by Permit Conditions I-VI.

SECTION II - GENERAL FACILITY CONDITIONS

II.A. DESIGN AND OPERATION OF FACILITY

The Permittee shall construct, maintain, and operate the facility to minimize the possibility of an unplanned fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment, as required by Part VI.A. [Adopts by reference 40 CFR 264.31] of the GHWMRs.

II.B. REQUIRED NOTICES

II.B.1. Hazardous Waste from Off-Site Sources

When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), it must inform the generator in writing that it has the appropriate Permits, and will accept the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the operating record. Part VI.A. [Adopts by reference 40 CFR 264.12(b)] of the GHWMRs.

II.B.2. Hazardous Waste Imports

The Permittee shall notify the Administrator in writing as least four (4) weeks in advance of the date the Permittee expects to receive hazardous waste from a foreign source, as required by Part VI.C. [Adopts by reference 40 CFR 264.12(a) and amended] of the GHWMRs. Notice of subsequent shipments of the same waste from the same foreign source in the same calendar year is required. When the Permittee imports hazardous waste into Guam from a foreign source, the Permittee must comply with the requirements delineated for imports of hazardous waste Part IV.N. [Adopts by reference 40 CFR 262.60(a) as amended] of the GHWMRs.

II.C. GENERAL WASTE ANALYSIS

The Permittee shall follow the waste analysis procedures required by Part VI.A. [Adopts by reference 40 CFR 264.13] of the GHWMRs, as described in the Waste Analysis Plan, Appendix A. Before the Permittee treats any reactive waste at the OB/OD unit having identifiable markings or other means of identification, it must review manufacturers or Department of Defense data or information which must be known to treat the waste safely and in accordance with this Permit. If waste or environmental media are subjected to analytical testing, the Permittee shall maintain proper functional instruments, use approved sampling and analytical methods, verify the validity of sampling and analytical procedures, and perform correct calculations.

If the Permittee uses a contract laboratory to perform analyses, then the Permittee shall inform the laboratory in writing that it must operate under the waste analysis conditions set forth in this Permit.

II.D. SECURITY

The Permittee shall comply with the security provisions of Part VI.A. [Adopts by reference 40 CFR 264.14(b)] of the GHWMRs and Appendix B of the Permit.

II.E. GENERAL INSPECTION REQUIREMENTS

The Permittee shall follow the inspection schedule set out in Appendix C of the Permit. The Permittee shall remedy any deterioration or malfunction discovered by an inspection, as required by Part VI.A. [Adopts by reference 40 CFR 264.15(c)] of the GHWMRs.

Records of inspection shall be kept, as required by Part VI.A. [Adopts by reference 40 CFR 264.15(d)] of the GHWMRs.

II.F. PERSONNEL TRAINING

The Permittee shall conduct personnel training, as required by Part VI.A. [Adopts by reference 40 CFR 264.16] of the GHWMRs. This training program shall follow the procedures set out in Appendix D of the Permit. The Permittee shall maintain training documents and records, as required by Part VI.A. [Adopts by reference 40 CFR 264.16(d) and (e)] of the GHWMRs.

II.G. SPECIAL PROVISIONS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall comply with the requirements of Part VI.A. [Adopts by reference 40 CFR 264.17(a)] of the GHWMRs. The Permittee shall follow the procedures for handling ignitable, reactive, and incompatible wastes set forth in Appendix E of the Permit.

II.H. PREPAREDNESS AND PREVENTION

II.H.1. Required Equipment

At a minimum, the Permittee shall maintain at the facility the equipment set forth in the Contingency Plan, Appendix F of the Permit, as required by Part VI.A. [Adopts by reference 40 CFR 264.32] of the GHWMRs.

II.H.2. Testing and Maintenance of Equipment

The Permittee shall test and maintain the equipment specified in the Contingency Plan, Appendix F of the Permit, as necessary, to assure its proper operation in time of emergency, as required by Part VI.D. [Adopts by reference 40 CFR 264.33] of the GHWMRs.

II.H.3. Access to Communications or Alarm System

The Permittee shall maintain access to the communications or alarm system, as required by Part VI.A. [Adopts by reference 40 CFR 264.34] of the GHWMRs.

II.H.4. Arrangements with Local Authorities

The Permittee shall attempt to make arrangement with state and local authorities, as required by Part VI.A. [Adopts by reference 40 CFR 264.37] of the GHWMRs. If state or local officials decline to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

II.I. CONTINGENCY PLAN

II.I.1. Implementation of Plan

The Permittee shall immediately carry out the provisions of the Contingency Plan, Appendix F of the Permit, whenever there is an unplanned fire, explosion, or release of hazardous waste or constituents which could threaten human health or the environment.

II.I.2. Copies of Plan

The Permittee shall maintain a copy of the Contingency Plan at the facility and shall provide a copy to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be asked to provide emergency assistance, as required by Part VI.A. [Adopts by reference 40 CFR 264.53] of the GHWMRs.

II.I.3. Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the Contingency Plan, as required by Part VI.A. [Adopts by reference 40 CFR 264.54] of the GHWMRs.

II.I.4. Emergency Coordinator

A trained emergency coordinator shall be available at all times in case of an emergency, as required by Part VI.A. [Adopts by reference 40 CFR 264.55] of the GHWMRs.

The names, addresses, and phone numbers of all persons qualified to act as emergency coordinators must be kept up to date and included in the Contingency Plan. Part VI.A. [Adopts by reference 40 CFR 264.52(d)] of the GHWMRs.

II.J. DOCUMENTATION OF SHIPMENTS FROM OFF-SITE SOURCES

The Permittee shall use Incident Form 3265 to document and track shipments of reactive wastes from off-site sources to the installation.

II.K. RECORDKEEPING AND REPORTING

In addition to the record keeping and reporting requirements specified elsewhere in this Permit, the Permittee shall do the following:

II.K.1. Operating Record

The Permittee shall maintain a written operating record at the facility, in accordance with Part VI.A. [Adopts by reference 40 CFR 264.73] of the GHWMRs.

II.K.2. Annual Report

The Permittee shall comply with the annual reporting requirements of Part VI.F. [Adopts by reference 40CFR 264.75 as amended] of the GHWMRs.

II.K.3. Manifest System

The Permittee shall comply with the manifest requirements of Part VI.A. [Adopts by reference 264.71, 264.72, 264.76] of the GHWMRs.

II.L. GENERAL CLOSURE REQUIREMENTS

Closure of the facility must be in accordance with the provisions of the Part VI. [Adopts by reference 40 CFR Part 264] of the GHWMRs and the approved closure plan (Appendix G of the Permit, which includes the Sampling and Analysis Plan for Closure).

II.L.1. Performance Standard

The Permittee shall close the facility, as required by Part VI. [Adopts by reference 40 CFR 264.111] of the GHWMRs and in accordance with the Closure Plan, Appendix G of the Permit.

II.L.2. Amendment to Closure Plan

The Permittee shall amend the Closure Plan in accordance with Part VI. [Adopts by reference 40 CFR 264.112(c)] of the GHWMRs, whenever necessary.

II.L.3. Notification of Closure

The Permittee shall notify the Administrator in writing at least forty-five (45) days prior to the date on which he expects to begin closure of the OB/OD unit or final closure of the facility, as required by Part VI. [Adopts by reference 40 CFR 264.112(d)] of the GHWMRs.

II.L.4. Time Allowed For Closure

After receiving the final volume of hazardous waste at the OB/OD unit, the Permittee shall treat, remove from the unit or facility, or dispose of on-site all hazardous waste and shall complete closure activities, in accordance with Part VI.A. [Adopts by reference 40 CFR 264.113] of the GHWMRs and the schedules specified in the Closure Plan, Appendix G of the Permit.

II.L.5. Disposal or Decontamination of Equipment, Structures, and Soils

The Permittee shall decontaminate and/or dispose of all contaminated equipment, structures, and soils, as required by Part VI.A. [Adopts by reference 40 CFR 264.114] of the GHWMRs and the Closure Plan, Appendix G of the Permit.

II.L.6. Certification of Closure

The Permittee shall certify that the facility has been closed in accordance with the specifications in the Closure Plan, as required by Part VI.A. [Adopts by reference 40 CFR 264.115] of the GHWMRs.

II.M. GENERAL CONTINGENT POST-CLOSURE REQUIREMENTS

II.M.1. Post-Closure Care Period

The Permittee shall begin post-closure care, if required, for the OB/OD unit after completion of closure of the unit and continue for thirty (30) years after that date, or for a shorter or longer period pursuant to Part VI.A. [Adopts by Reference 40 CFR 264.117(a)(2)] of the GHWMRs. Post-Closure care shall be in accordance with Part VI.A. [Adopts by reference 40 CFR 264.117] of the GHWMRs and the Contingent Post-Closure Plan required by Appendix G of the Permit.

II.M.2. Post-Closure Security

The Permittee shall maintain security at the facility during the post-closure care period, in accordance with the Contingent Post-Closure Plan, and Part VI.A. [Adopts by reference 40 CFR 264.117(b)] of the GHWMRs.

II.M.3. Amendment to Contingent Post-Closure Plan

The Permittee shall amend the Contingent Post-Closure Plan in accordance with Part VI.A. [Adopts by reference 40 CFR 264.118(d)] of the GHWMRs, whenever necessary.

II.M.4. Post-Closure Notices

II.M.4.a. No later than sixty (60) days after certification of closure of the OB/OD unit, the Permittee shall submit a record to the Administrator of the types and estimated quantity of hazardous waste treated at the OB/OD unit over its operating life, to the best of its knowledge.

II.M.4.b. No later than submission of the certification of closure of the OB/OD unit, the Permittee shall submit to the Administrator and the local zoning authority or the authority with jurisdiction over local land use, a survey plat indicating the location and dimensions of the closed unit with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat must contain a note, prominently displayed, which states the Permittee's obligation to restrict disturbance of the closed unit in accordance with applicable Closure and Post-Closure regulations.

II.M.4.c. The Permittee shall request and obtain a Permit modification prior to post-closure removal of hazardous wastes, hazardous waste residues, liners, or contaminated soils, in accordance with Part VI.A. [Adopts by reference 40 CFR 264.119(c)] of the GHWMRs.

II.M.5. Certification of Completion of Post-Closure Care

The Permittee shall certify that the post-closure care period was performed in accordance with the specifications in the Contingent Post-Closure Plan, as required by Part VI.A. [Adopts by reference 40 CFR 264.120] of the GHWMRs.

II.N. COST ESTIMATE AND FINANCIAL ASSURANCE FOR FACILITY CLOSURE AND CONTINGENT POST-CLOSURE

In accordance with Part VI.A. [Adopts by reference 40 CFR 264.140] of the GHWMRs, the federal government is exempt from the financial assurance requirements of Part VI.A. [Adopts by reference 40 CFR Part 264, Subpart H] of the GHWMRs. Consequently, cost estimates and a financial assurance mechanism for closure and contingent post-closure care of the OB/OD units are not required.

II.O. LIABILITY REQUIREMENTS

In accordance with Part VI.A. [Adopts by reference 40 CFR 264.140(c)] of the GHWMRs, the federal government is exempt from maintaining liability coverage for sudden and non-sudden accidental occurrences.

SECTION III - TREATMENT OF REACTIVE WASTES

III.A. SECTION HIGHLIGHTS

Open burning and open detonation of waste ordnance materials occurs at the Explosive Ordnance Disposal (EOD) Range. The unit is located at the extreme eastern reach of Tarague Beach, ending just before Tagua Point (Appendix H of the Permit). The grid coordinates for the Open Detonation unit is 13 degrees, 35.58 minutes north, 144 degrees, 56.48 minutes east. This area has been in constant use since its inception at least 20 years ago. Its mission is to render unserviceable ordnance and other pyrotechnic devices harmless by either suppressed detonation or open burning. In addition, the EOD range has been used for EOD training purposes and emergency purposes.

The EOD range is defined as the open beach area bounded by the Pacific Ocean to the north and the jungle and/or limestone to the east, south, and west. Surrounding the active treatment units is a 2,400 foot-radius safety zone, as defined by operational requirements.

The active detonation units are located at the extreme eastern edge of Tarague Beach. They consist of two (2) pits; each located directly along the face of the cliff. Detonation of the munitions at the cliff face directs the destructive force of the detonation away from the occupied areas. Open detonation operations consists of several steps, including properly placing: the waste munitions, an explosive charge to detonate the waste munitions (if required), and an igniter to initiate the detonator. Detonations are initiated from the personnel bunker.

The inactive open burning pit is located approximately 80 feet from the jungle and 180 feet from the Pacific Ocean, approximately midway east west in the EOD Range. Open burning was conducted in a burn kettle approximately four feet in diameter and five feet tall. The OB pit was roughly 45 feet long by 14 feet wide by 6 feet deep.

Open burning operations consists of placing dunnage (wood) in the burn kettle to provide access for combustion air, placing the waste munitions in the burn kettle, placing a remote-controlled ignition device, placing approximately ten (10) gallons of virgin diesel fuel in the burn kettle, then remotely activating the ignition device from the personnel bunker.

Facility Pictures and a topographic map of the EOD Range are attached in Appendix H of the Permit.

After review of the ecological risk assessment in the Permit application, the Administrator has concluded that the mortality of biological receptors has to be protected from OB/OD activities. Therefore, the Permittee is required to follow the Biological Mitigation Plan, Appendix L, as described in this Permit.

Currently, the OB unit burn kettle is non-operational due to severe corrosion and the unit has not been used for several years. Before any open burning activity is allowed under the permit, the

unit must meet the design and operational specifications described in the permit application as adopted in this Permit.

The Permittee shall operate the OB/OD unit in accordance with the Waste Analysis Plan, Standard Operating Procedures, Residue Management Plan, Groundwater Monitoring Plan, and the Biological Mitigation Plan as described in the Permit.

III.B. PERMITTED AND PROHIBITED WASTE IDENTIFICATION

III.B.1. The Permittee may open burn/open detonate at the OB/OD unit hazardous wastes (also referenced in this Permit as "reactive waste") that consist of common military ordnance material (such as black powder, white/red phosphorus, tear gas, ammunitions, propellants, and explosive materials).

The Permittee shall abide by the restrictions for treatment through OB/OD of RCRA Hazardous waste materials as described in Appendix I, of the Permit, “Open Burning/Open Detonation RCRA hazardous waste treatment waste materials restrictions”.

III.B.2. The Permittee is prohibited from treating hazardous waste at the OB/OD unit that is not identified in Permit Condition III.B.1.

III.C. DESIGN, CONSTRUCTION, AND OPERATING REQUIREMENTS

III.C.1. Open Burning in a Containment Device

Open burning of the OB/OD unit shall be conducted pursuant to the information provided to meet design, construction, and operating requirements provided in the Process Information, the OB/OD Residue Management Plan, 36 Wing Instruction 32-3001 (36WI 32-3001), and the Biological Mitigation Plan (Appendix I, J, K and L of the Permit). The information addresses the following requirements:

III.C.1.a. The Permittee shall operate and maintain the open burning device in accordance with the Process Information, the OB/OD Residue Management Plan, 36WI 32-3001, and the Biological Mitigation Plan (Appendix I, J, K and L of the Permit).

III.C.1.b. The Permittee shall design, construct, operate, and maintain a precipitation cover for the open burning tray(s) in accordance with the Procedures identified in Appendix I of the Permit.

III.C.1.c. The Permittee shall design, construct, operate, and maintain the open burning unit to minimize air emissions or exposure of people (onsite or offsite) to toxic or hazardous emissions in accordance with the Process Information, the OB/OD Residue Management Plan, 36WI 32-3001, and the Biological Mitigation Plan (Appendix I, J, K and L of the Permit).

III.C.1.d. The Permittee shall provide guidance on how ash/residues from the open burning unit will be managed in accordance with the OB/OD Residue Management Plan (Appendix J of the Permit).

III.C.1.e. The Permittee shall follow the procedures for the protection of ecological receptors in accordance with the Biological Mitigation Plan in Appendix L of the Permit.

III.C.2. Open Detonation On/In the Ground

III.C.2.a. The Permittee shall operate and maintain the open detonation area at the OB/OD unit in accordance with the operating procedures, the Process Information, the OB/OD Residue Management Plan, 36WI 32-3001, and the Biological Mitigation Plan (Appendix I, J, K and L of the Permit).

III.C.2.b. The Permittee shall operate and maintain the open detonation area to minimize air emissions or exposure of people (onsite or offsite) to toxic or hazardous emissions in accordance with the hazard prevention procedures Appendix I of the Permit.

III.C.2.c. The Permittee shall manage residues from open detonation in accordance with Appendix J of the Permit.

III.D. HANDLING REQUIREMENTS

The Permittee shall handle/manage reactive waste that will be treated at the OB/OD unit in accordance with the Process Information, OB/OD Residue Management Plan, and 36WI 32-3001 (Appendix I, J and K of the Permit).

III.E. INSPECTION SCHEDULES AND PROCEDURES

The Permittee shall inspect the OB/OD unit in accordance with the inspection schedule set out in Appendix C of the Permit.

III.F. PREVENTION OF UNINTENDED IGNITION OR REACTION OF WASTES

The Permittee shall follow the procedures, contained in Appendix E of the Permit, designed to prevent unintended ignition or reaction of waste.

III.G. MONITORING REQUIREMENTS

The Permittee shall conduct ground water monitoring at the OB/OD unit in accordance with Permit Condition IV. In addition, the Permittee shall follow the appropriate monitoring procedures under the Biological Mitigation Plan (Appendix L).

III.H. FACILITY MODIFICATION/EXPANSION

III.H.1. Permit Modification

Guam EPA reserves the right to modify this Permit in accordance with Part X.A. (Adopts by reference 40 CFR 270.41) of the GHWMRs.

III.H.2. Permit Modification At The Request Of The Permittee

Modifications or expansions of the facility shall be accomplished in accordance with Part X.A. (Adopts by reference 40 CFR 270.42) of the GHWMRs.

III.I. CLOSURE AND CONTINGENT POST-CLOSURE

III.I.1. At final closure of the OB/OD unit, the Permittee shall follow the procedures in the Closure Plan, Appendix G of the Permit.

III.I.2. If, after closure, the Permittee finds that not all contaminated soils and debris can be removed or decontaminated in accordance with the Closure Plan, then the Permittee shall close the OB/OD unit and perform post-closure care in accordance with requirements contained in Permit Condition V.

III.J. RECORDKEEPING

The Permittee shall develop and maintain all records required to comply with Part VI.A. [Adopts by reference 40 CFR 264.73 and 40 CFR 264.602] of the GHWMRs.

III.K. SCHEDULE FOR IMPROVEMENTS

The OB unit of the EOD range is in a non-operational condition and has not been maintained. In the event that the Permittee needs to conduct OB operations, the Permittee shall submit a schedule of repair for the OB unit to the Guam Environmental Agency for review and approval. The scope of repair work must enable the unit to meet the performance requirements and specifications for the OB unit described in the Permit. Pending completion and commencement of use of the improvements, the Permittee shall conduct open burning under interim status in accordance with Part VII.A. [Adopts by reference 40 CFR 265.382] of the GHWMRs.

The Permittee shall commence use of the permitted open burn component of the OB/OD unit if, within thirty (30) days of submission of certification of construction, the Administrator has not inspected the unit component; otherwise, the Permittee shall commence use of the permitted unit component at an earlier time upon Administrator inspection and approval.

SECTION IV - GROUNDWATER MONITORING

IV.A. SECTION HIGHLIGHTS

Open burning and open detonation of waste ordnance materials occurs at the Explosive Ordnance Disposal (EOD) Range. The unit is located at the extreme eastern reach of Tarague Beach, ending just before Tagua Point (Photo 9, Appendix H of the Permit). The grid coordinates for the Open Detonation unit is 13 degrees, 35.58 minutes north, 144 degrees, 56.48 minutes east. This area has been in constant use since its inception at least twenty (20) years ago. Its mission is to render unserviceable ordnance and other pyrotechnic devices harmless by either suppressed detonation or open burning. In addition, the EOD range has been used for EOD training purposes and emergency purposes.

The EOD range is defined as the open beach area bounded by the Pacific Ocean to the north and the jungle and/or limestone to the east, south, and west. Surrounding the active treatment units is a 2,400 foot-radius safety zone, as defined by operational requirements.

The reactive wastes treated at the OB/OD unit consist of common military ordnance material (such as black powder, white/red phosphorus, tear gas, ammunitions, propellants, and explosive materials).

After considering the Permittee's Subpart X application for the OB/OD unit, the Administrator has determined that the site monitoring program shall consist of ground-water monitoring to ensure that any release of hazardous waste or hazardous constituents from open burning/open detonation of reactive wastes to the shallow unconfined aquifer beneath the OB/OD unit are detected and, as appropriate, addressed through corrective action. The elements of the site-monitoring program to be established by the Permittee are derived from Part VI.A. [Adopts by reference 40 CFR Part 264, Subpart F] of the GHWMRs, but have been tailored as detailed herein to the site- and unit-specific risks and circumstances posed by this Subpart X unit. Therefore, any references herein to particular Part VI.A. [Adopts by reference 40 CFR Part 264, Subpart F] of the GHWMRs, requirements do not imply that the full Subpart F standards are applicable.

Due to the proximity of the facility to the ocean, the Administrator recognizes that additional information is needed for the design of the groundwater-monitoring program. The Permittee has submitted a Dye Trace Study Work Plan for the purpose of determining suitable monitoring points for monitoring groundwater. The Dye Trace Study Work Plan has been implemented, and results reported in the Dye Trace Study Results Report. The Permittee used the data from the Dye Trace Study Results Report to prepare the facility Groundwater Monitoring Plan (Appendix M of the Permit), which was submitted to the Administrator for approval. After Administrator approval, the groundwater-monitoring plan will be implemented.

IV.A.1. Groundwater Monitoring Plan

The Permittee has submitted an application for Permit modification to the Administrator for the groundwater monitoring program for the shallow unconfined aquifer beneath the OB/OD unit. To the extent applicable, the application for Permit modification includes:

IV.A.1.a. The design of a well system which will yield ground-water samples from the shallow unconfined aquifer which represent the quality of up gradient water and water passing the down gradient boundaries of the OB/OD unit. Well locations and well construction details (for existing and any proposed wells) shall be specified in the design report. For proposed wells, the design report shall also include a schedule for installation (not to exceed ninety (90) days from the effective date of the Administrator's approval of the Permit modification request) and a schedule for submittal of certification of proper installation (not to exceed one hundred twenty (120) days from the effective date of the Administrator's approval of the Permit modification request).

IV.A.1.b. A sampling and analysis plan consisting of procedures and techniques for:

i. Sample collection

ii. Sample preservation and shipment

iii. Analytical procedures and

iv. Chain-of-custody control.

The plan shall also include a list of proposed parameters or constituents to be monitored. The list shall solely consist of the parameters identified in Permit Conditions IV.A.1. and IV.C. of this section, with the exception that if bis (2-ethylhexyl) phthalate is not detected during the verification sampling rounds or its presence can be attributed to non-OB/OD activities, it may be deleted from the proposed analyte list for the site monitoring program.

The plan shall also include the frequency for collecting samples, except that the frequency shall not be less than semiannual sampling of the site monitoring system, to be initiated commencing with the effective date of the Administrator's approval of the Permit modification request or the date of certification of any new wells that are installed, whichever is later.

IV.A.1.c. Criteria for establishing whether a release that may have adverse effects on human health and the environment has occurred from the OB/OD unit to ground water at the point of compliance wells. The Permittee shall propose one, the other, or a combination of the following methods, at the election of the Permittee, for determining the existence of a release:

i. Comparison of measured ground-water concentrations to concentration limits that will not pose a significant presence or potential risk to human health or the environment as long as the limits are not exceeded (risk-based concentration limits). The application for Permit modification shall include, as applicable, the proposed risk-based concentration limits and a detailed rationale and justification

for development of these limits.

ii. Statistical evaluation of the groundwater data in accordance with Permit Condition IV.F., including comparison of collected data to data representative of background concentrations of metals and, as applicable, explosives concentrations in ground-water samples up gradient of the OB/OD unit. The application for Permit modification shall include, as applicable, any proposed background concentrations and a detailed rationale and justification for establishment of these limits and the statistical method(s) to be used by the Permittee.

IV.A.1.d. Procedures for notification to the Administrator in accordance with Permit Conditions IV.H.4.a. and b. of an exceedance of a risk-based concentration limit and/or statistically significant evidence of a release and for immediate re-sampling of the well(s) that exhibited the exceedance for the particular constituent(s).

IV.A.1.e. If the release is confirmed, procedures in accordance with Permit Conditions IV.H.4.d. or e. and/or IV.H.5.a.-d., for submittal of an application for Permit modification.

IV.A.1.f. Procedures for conducting a trend analysis on the ground-water data. At minimum, the Permittee shall propose to construct and maintain a graph for each well that depicts the variation in concentrations with respect to time and to update these graphs after receiving the results of each sampling event. The Permittee shall determine for each well whether any of the parameters have exhibited what appears to be a significant trend toward increased concentrations. In the event a significant trend is apparent, the Permittee shall propose one or more of the following measures to address the apparent trend: re-sampling of the well(s) in question, notification to the Administrator of the results of the re-sampling and whether the apparent trend is confirmed or not, and, as applicable, proposed changes in operating and/or monitoring practices to address the apparent trend.

IV.B. WELL LOCATION, INSTALLATION AND CONSTRUCTION

Upon the Administrator's approval of the application for Permit modification referenced in Permit Condition IV.A.1. and in accordance with the schedules contained in that approval, the Permittee shall install and maintain a ground-water monitoring system as specified below:

IV.B.1. The Permittee shall install and maintain the approved groundwater monitoring wells at the locations specified on a map to be submitted with the application for Permit modification. The map shall also provide unique identifiers for each well and shall identify point of compliance wells. The numbers and locations of the wells must be sufficient to identify and define the logical ground-water release pathways from the OB/OD unit based on the site-specific hydrogeologic characterization.

IV.B.2. The Permittee shall, for any wells constructed after the effective date of the Permit, construct and maintain the monitoring wells identified in Permit Condition IV.B.1. in accordance

with the detailed plans and specifications to be submitted in and approved through the application for Permit modification.

IV.B.3. All wells deleted from the monitoring program shall be decommissioned in accordance with procedures to be specified in the application for Permit modification. The application shall also contain procedures for ensuring that well decommissioning methods and certification shall be submitted to the Administrator within thirty (30) days from the date the wells are removed from the monitoring program.

IV.C. INDICATOR PARAMETER AND MONITORING CONSTITUENTS

During the first year of groundwater monitoring, the Permittee may make a background determination to establish levels for the explosive constituent cyclotrimethylene trinitramine (RDX), mercury, and lead for the site-monitoring program. The Administrator may allow determination of background quality for RDX, mercury, and lead based on samples from other wells on the installation.

IV.D. SAMPLING AND ANALYSIS PROCEDURES

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the groundwater monitoring wells described in Permit Condition IV.B.

IV.D.1. Samples shall be collected using the techniques described in the sampling and analysis plan referenced in Permit Condition IV.A.1.b. as approved by the Administrator.

IV.D.2. Samples shall be preserved and shipped in accordance with the procedures specified in the sampling and analysis plan referenced in Permit Condition IV.A.1.b. as approved by the Administrator.

IV.D.3. Samples shall be analyzed in accordance with the procedures specified in the sampling and analysis plan referenced in Permit Condition IV.A.1.b. as approved by the Administrator.

IV.D.4. Samples shall be tracked and controlled using the chain-of-custody procedures specified in the sampling and analysis plan referenced in Permit Condition IV.A.1.b. as approved by the Administrator.

IV.E. ELEVATION OF THE GROUNDWATER SURFACE

IV.E.1. The Permittee shall determine the elevation of the groundwater surface at each well each time the groundwater is sampled.

IV.E.2. The Permittee shall record the surveyed elevation of the monitoring well(s) when installed (with as-built drawings).

IV.F. STATISTICAL PROCEDURES

IV.F.1. As applicable, when evaluating the monitoring results in accordance with Permit Condition IV.G. The Permittee shall use one of the following statistical methods:

IV.F.1.a. A parametric analysis of variance (ANOVA) followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well mean and the background mean levels for each constituent.

IV.F.1.b. An analysis of variance (ANOVA) based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well median and the background median levels for each constituent.

IV.F.1.c. A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

IV.F.1.d. A control chart approach that gives control limits for each constituent.

IV.F.1.e. Another statistical test method submitted by the Permittee and approved by the Administrator.

IV.F.2. Any statistical method identified in Permit Condition IV.F.1. that is selected by the Permittee shall comply with the following performance standards, as appropriate, and shall be selected with regard to the appropriateness of these tests for site conditions as outlined in Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities: Interim Final Guidance (EPA, OSW, 1989):

IV.F.2.a. The statistical method used to evaluate groundwater-monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the Permittee to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

IV.F.2.b. If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type 1 error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type 1 experiment-wise error rate for each testing period shall be no less than 0.05; however, the Type 1 error of no less than 0.01 for individual well comparisons must be maintained. This performance level does not apply to tolerance intervals, prediction intervals, or control charts.

IV.F.2.c. If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the Permittee and approved by the Administrator.

IV.F.2.d. If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be proposed by the Permittee and approved by the Administrator. These parameters will be determined after considering the number of samples in the background database, the data distribution, and the range of the concentration values for each constituent of concern.

IV.F.2.e. The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit (PQL) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

IV.F.2.f. If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

IV.G. MONITORING PROGRAM AND DATA EVALUATION

IV.G.1. The Permittee shall collect, preserve, and analyze samples pursuant to Permit Condition IV.D.

IV.G.2. After approval of the application for Permit modification (Permit Condition IV.A.1.), the Permittee shall collect samples and conduct a determination semiannually as to whether there is an exceedance of a risk-based concentration limit and/or statistically significant evidence of contamination for the parameter and hazardous constituents specified in Permit Condition IV.C. The Permittee shall express the groundwater quality at each monitoring well in a form necessary for any determination of statistically significant increases (i.e., means and variances) and/or exceedance of a risk-based concentration limit.

IV.G.3. After approval of the application for Permit modification (Permit Condition IV.A.1.), the Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually. Methods for flow monitoring shall be proposed by the Permittee in the application for Permit modification (Permit Condition IV.A.1.) and approved by the Administrator.

IV.G.4. After approval of the application for Permit modification (Permit Condition IV.A.1.), the Permittee shall determine whether there is an exceedance of a risk-based concentration limit and/or statistically significant increase over the background values for the parameter and hazardous constituents identified in Permit Condition IV.C. each time groundwater quality is determined at the compliance point. In determining whether such an increase has occurred, the Permittee must compare the groundwater quality at each monitoring well specified in Permit

Condition IV.B.1. to the risk-based concentration limits established through Permit Condition IV.A.1c.i. and/or the background value established through Permit Condition IV.A.1.c.ii. in accordance with one or more of the statistical procedures specified in Permit Condition IV.F. as applicable.

IV.H. RECORDKEEPING AND REPORTING

IV.H.1. The Permittee shall enter all monitoring, testing, and analytical data obtained in accordance with Permit Condition IV.G. in the facility operating record. The data must include all computations and results associated with statistical tests, if used in evaluating groundwater monitoring data.

IV.H.2. The established risk-based concentration limits and/or background values and the computations necessary to determine these limits and/or values must be submitted to the Administrator.

Groundwater monitoring data collected, including actual levels of constituents, must be maintained in the facility operating record.

IV.H.3. The Permittee shall submit to the Administrator the analytical results required by Permit Condition IV.G.2. the groundwater flow rate and direction results required by Permit Condition IV.G.3., and the results of the initial analyses required by Permit Condition IV.G.4. in a semiannual site monitoring report to be submitted within sixty (60) days of receipt of analytical results from each semiannual sampling event.

IV.H.4. If the Permittee determines, pursuant to Permit Condition IV.G. that there is an exceedance of a risk-based concentration limit and/or a statistically significant increase above the background values for the parameter or hazardous constituents specified in Permit Condition IV.C., the Permittee shall:

IV.H.4.a. Notify the Administrator in writing within seven (7) days of the determination.

IV.H.4.b. Immediately sample the groundwater in the well(s) that exhibited the increase and determine the concentration of the particular constituent(s) that have shown an exceedance of a risk-based concentration limit and/or statistically significant increase in concentration.

IV.H.4.c. As applicable, the Permittee may establish the background values for the particular constituent(s).

IV.H.4.d. If a statistically significant release is confirmed, based on an exceedance of background values, pursuant to the re-sampling required by Permit Condition IV.H.4.b, within ninety (90) days of receipt of analytical results from the re-sampling, submit to the Administrator an application for a Permit modification to establish a compliance monitoring program. The application must include the following information:

An identification of the concentration of constituents found in the groundwater at each monitoring well at the compliance point.

Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of compliance monitoring.

i. Any proposed changes to the monitoring frequency, sampling and analysis procedures, or methods or statistical procedures used at the facility necessary to meet the requirements of compliance monitoring.

ii. For each hazardous constituent found at the compliance point, a proposed alternate background concentration limit or a notice of intent to seek an alternate concentration limit (ACL) for a hazardous constituent, or if no ACL will be sought a schedule for submittal of a corrective action feasibility plan in accordance with Part VI.A. [Adopts by reference 40 CFR Part 264.100] of the GHWMRs to the Administrator within one hundred eighty (180) days.

IV.H.4.e. If a release, which was identified based on an exceedance of a risk-based concentration limit, is confirmed pursuant to the re-sampling required by Permit Condition IV.H.4.b. within ten (10) days of receipt of analytical results from the re-sampling, the Permittee shall submit written notice to the Administrator that identifies the concentration(s) of constituents in the ground water at each monitoring well at the compliance point and that contains a notice of intent to submit an application for Permit modification that contains a corrective action feasibility plan.

Within 180 days of confirmation of the release identified pursuant to Permit Condition IV.H.4.e., the Permittee shall submit a corrective action feasibility plan in accordance with Part VI.A. [Adopts by reference 40 CFR Part 264.100] of the GHWMRs to the Administrator.

IV.H.5. If the Permittee determines, pursuant to Permit Condition IV.G. there is an exceedance of a risk-based concentration limit and/or statistically significant increase above the background values for the parameter and hazardous constituents specified in Permit Condition IV.C. it may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In such cases, the Permittee shall:

IV.H.5.a. Notify the Administrator in writing within seven (7) days of the determination made pursuant to Permit Condition IV.G. that it intends to make a demonstration.

IV.H.5.b. Within ninety (90) days of the notice, submit a report to the Administrator, which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation.

IV.H.5.c. Within ninety (90) days of the notice, submit to the Administrator an application for a Permit modification to make any appropriate changes to the site-monitoring program at the facility.

IV.H.5.d. Continue to monitor in accordance with the site-monitoring program at the facility.

IV.I. REQUEST FOR PERMIT MODIFICATION

If the Permittee or the Administrator determines the site monitoring program no longer satisfies the requirements of the regulations, the Permittee must, within ninety (90) days of its determination or receipt of written notice of the Administrator's determination, submit an application for a Permit modification to make any appropriate changes to the program which will satisfy the requirements of Part VI.A. [Adopts by reference 40 CFR Part 264, Subpart X] of the GHWMRs.

SECTION V - CONTINGENT POST-CLOSURE CARE

V.A. UNIT IDENTIFICATION

In the event, the Permittee cannot or elects not to clean close the OB/OD unit, the Permittee shall provide post-closure care for the unit, subject to the terms and conditions of this Permit.

V.B. POST-CLOSURE PROCEDURES AND USE OF PROPERTY

V.B.1. The Permittee shall conduct post-closure care for the OB/OD unit, to begin after completion of closure of the unit and continue for thirty (30) years after that date, except that the thirty (30) year post-closure care period may be shortened upon application and demonstration approved by the Administrator that the facility is secure, or may be extended if the Administrator finds this is necessary to protect human health and the environment, Part VI.A. [Adopts by reference 40 CFR 264.117(a)] of the GHWMRs.

V.B.2. The Permittee shall maintain and monitor the site monitoring system of Permit Condition IV during the post-closure period.

V.B.3. If the OB/OD unit cannot be clean-closed, it must be closed as a landfill or as a land treatment unit, at the election of the Permittee.

V.B.3.a. If the Permittee elects to comply with the requirements for landfills, the following are applicable, except to the extent they may be modified by the Administrator for this Subpart X unit, Part VI.A. [Adopts by reference 40 CFR 264.310(b)] of the GHWMRs:

Maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, or other events;

Maintain and monitor the site monitoring system provided for in Permit Condition IV;

Prevent run-on and run-off from eroding or otherwise damaging the area

Protect and maintain surveyed benchmarks used in complying with the surveying and record keeping requirements of Part VI.A. [Adopts by reference 40 CFR 264.309] of the GHWMRs.

V.B.3.b. If the Permittee elects to comply with the requirements for land treatment units, the post-closure criteria in Part VI.A. [Adopts by reference 40 CFR 264.280(c)(2)-(6) and (d) and (e)] of the GHWMRs, are applicable, except to the extent these criteria may be modified by the Administrator for this Subpart X unit.

V.B.4. The Permittee shall comply with any security requirements required by the Administrator pursuant to Part VI.A. [Adopts by reference 40 CFR 264.117(b)] of the GHWMRs.

V.B.5. The Permittee shall not allow any use of the OB/OD unit, which will disturb the integrity of any final cover, any components of the containment system, or the function of the facility's monitoring system during the post-closure care period. Part VI.A. [Adopts by reference 40 CFR 264.117(c)] of the GHWMRs.

V.B.6. The Permittee shall implement the Contingent Post-Closure Plan. All post-closure care activities must be conducted in accordance with the provisions of the Contingent Post-Closure Plan. Part VI.A. [Adopts by reference 40 CFR 264.117(d) and 264.118(b)] of the GHWMRs.

V.C. INSPECTIONS

The Permittee shall inspect the components, structures, and equipment at the closed OB/OD unit in accordance with the Inspection Schedule in the Contingent Post-Closure Plan. Part VI.A. [Adopts by reference 40 CFR 264.117(a)(1)(ii)] of the GHWMRs.

V.D. NOTICES AND CERTIFICATION

V.D.1. No later than sixty (60) days after certification of closure of the OB/OD unit, the Permittee shall submit to the Administrator a record of the types and estimated quantity of hazardous wastes treated at the OB/OD unit. For hazardous wastes treated before January 12, 1981, the Permittee shall identify the type, location, and quantity of the hazardous wastes to the best of its knowledge and in accordance with any records it has kept. Part VI.A. [Adopts by reference 40 CFR 264.119(a)] of the GHWMRs.

V.D.2. No later than submission of certification of closure of the OB/OD unit, the Permittee shall:

V.D.2.a. Submit the survey plat referenced in Permit Condition II.M.4.b. to the Administrator and DPW Real Estate Division of the Permittee.

V.D.3. If the Permittee or any subsequent owner or operator of the land upon which the OB/OD unit is located, wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, then he shall request a modification to this Permit in accordance with the applicable requirements in Part XI.A. [Adopts by reference 40 CFR Part 124] and Part X.A. [Adopts by reference 40 CFR Part 270] of the GHWMRs. The Permittee or any subsequent owner or operator of the land shall demonstrate that the removal of hazardous wastes will satisfy the criteria of Part VI.A. [Adopts by reference 40 CFR 264.117(c)] of the GHWMRs.

V.D.4. No later than sixty (60) days after completion of the established post-closure care period for the OB/OD unit, the Permittee shall submit to the Administrator, by registered mail, a certification that the post-closure care for the OB/OD unit was performed in accordance with the specifications in the approved Contingent Post-Closure Plan. The certification must be signed by the Permittee and an independent registered professional engineer. Documentation supporting the independent, registered professional engineer's certification must be furnished to the

Administrator upon request. Part VI.A. [Adopts by reference 40 CFR 264.120] of the GHWMRs.

V.E. FINANCIAL ASSURANCE

V.E.1. In accordance with Part VI.A. [Adopts by reference 40 CFR 264.140] of the GHWMRs, the federal government is exempt from the financial assurance requirements of Part VI.A. [Adopts by reference 40 CFR Part 264, Subpart H] of the GHWMRs. Consequently, a cost estimate and financial assurance mechanism for post-closure care of the OB/OD unit are not required.

V.F. POST-CLOSURE PERMIT MODIFICATIONS

The Permittee must request a permit modification to authorize a change in the approved Contingent Post-Closure Plan. This request must be in accordance with applicable requirements of Part XI.A. [Adopts by reference 40 CFR Part 124] and Part X.A. [Adopts by reference 40 CFR Part 270] of the GHWMRs, and must include a copy of the proposed amended Post-Closure Plan for approval by the Administrator. The Permittee shall request a permit modification whenever changes in operating plans or facility design affect the approved Post-Closure Plan, there is a change in the expected year of final closure, or other events occur during the active life of the facility that affect the approved Post-Closure Plan. The Permittee must submit a written request for a permit modification at least sixty (60) days prior to the proposed change in facility design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affected the Post-Closure Plan. Part VI.A. [Adopts by reference 40 CFR Part 264.118(d)] of the GHWMRs.

SECTION VI: ADDITIONAL PERMIT CONDITION

The application for Permit modification for the open burning improvements (Permit Condition III.K) shall also include a description of the measures, including confirmatory sampling. The Permittee shall take to ensure that the area of the OB/OD unit, where the open burning component(s) will be located is evaluated, as needed, and measures taken to protect from installation of a permanent structure or structures over an area where unexploded ordnance, debris, or scrap are located. Any soil or material that must be removed during construction and that will not be re-deposited at the unit for construction shall be properly characterized and removed to an authorized on or off-site treatment, storage, disposal, or recycling facility. The certification of construction to be submitted by the Permittee to the Administrator upon completion of the improvement shall include a description of how any excavated soil or material were characterized and managed.

SECTION VII - CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

Andersen Air Force Base began a base wide RCRA corrective action program in 1984. Many SWMUs have been identified at the Base. These SWMUs are widespread throughout the base and include such units such as landfills, drum storage areas, and fire training areas. After the Base was listed on the National Priorities List as a Superfund site in 1992, the Air Force entered into a three-party Federal Facilities Agreement (FFA) with USEPA Region IX and Guam Environmental Protection Agency. Under this agreement, SWMUs under the RCRA correction action program were to have been cleaned up under the Superfund. However, additional SWMUs have been identified that are not covered under the FFA. The Air Force has begun the corrective action process on these SWMUs (see Table 2). Regulatory oversight of corrective actions at the SWMUs not covered under the FFA will be accomplished through this Permit.

Guam EPA and USEPA Region IX shall review the Permittee's corrective action program. The Permittee shall address comments from the Administrator and USEPA Region IX. In addition, the Permittee shall conduct corrective action in accordance with the correction process described in this section, the schedule approved by the Administrator, and the references attached in this Section.

Specific Conditions are Pursuant to the Guam Hazardous Waste Management Regulations and the 1984 Hazardous and Solid Waste Amendments (HSWA) to RCRA for Andersen Air Force Base Guam EPA ID Number GU6571999519.

VII.A. DEFINITIONS

For purposes of these special conditions pursuant to the 1984 Hazardous and Solid Waste Amendments to RCRA and the Guam Hazardous Waste Management Regulations the following definitions shall apply:

"Administrator" means the Administrator of the Guam Environmental Protection Agency.

"Area of Concern" (AOC) means any discernable unit or area which, in the opinion of the Administrator, may have received solid or hazardous waste or waste containing hazardous constituents at any time. The Administrator may require investigation of the unit as if it were a SWMU. If shown to be a SWMU by the investigation, the AOC must be reported by the Permittee as a newly identified SWMU. If the AOC is shown not to be a SWMU by the investigation, the Administrator may determine that no further action is necessary and notify the Permittee in writing.

"CMS" means Corrective Measures Study.

“Days” means calendar days unless otherwise specified.

"Division Director" means the Division Director for the Hazardous Waste Management Division within the United States Environmental Protection Agency, Region IX.

"EPA" means the United States Environmental Protection Agency.

"Facility" means all contiguous property under the control of the United States Air Force seeking a permit under Subtitle C of RCRA.

"Guam EPA" means the Guam Environmental Protection Agency.

“GHWMRs” means the Guam Hazardous Waste Management Regulations

"Hazardous waste" means a solid waste as defined under the Guam Hazardous Waste Management Regulations (GHWMRs), or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. The term hazardous waste includes hazardous constituent as defined below.

"Hazardous constituent" means any constituent identified the Part III of GHWMRs (Adopts Appendix VIII of 40 CFR Part 261, Appendix IX of 40 CFR Part 264).

"HSWA" means the 1984 Hazardous and Solid Waste Amendments to RCRA.

"Permit" means the conditions embodied in these special conditions pursuant to Guam Hazardous Waste Management Regulations and the 1984 Hazardous and Solid Waste Amendments to RCRA.

"Permittee" means the United States Air Force Andersen Air Force Base, Guam EPA ID No. GU6571999519

"RCRA" means the Resource Conservation and Recovery Act of 1980 as amended by the Hazardous and Solid Waste Amendments (HSWA) of 1984.

"RCRA Permit" means the full permit, with GHWMRs, RCRA, and HSWA portions.

"RFA" means RCRA Facility Assessment.

"RFI" means RCRA Facility Investigation.

"Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

"Solid Waste Management Unit" (SWMU) means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

“USEPA Region IX” means United States Environmental Protection Agency, Region IX.

If, subsequent to the issuance of this permit, regulations are promulgated which redefine any of the above terms, the Administrator may, at its discretion, apply the new definition to this permit.

VII.B. STANDARD CONDITIONS

VII.B.1. WASTE MINIMIZATION

The Permittee shall submit a certified plan according to Part X.A. [Adopts by reference 40 CFR 270.11] of the GHWMRs, in writing, annually, by December 1, for the previous year ending September 30, specifying that: the Permittee has a program in place to reduce the volume and toxicity of all hazardous wastes which are generated by the facility's operation to the degree determined to be economically practicable; and that the proposed method of treatment, storage, or disposal is the practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment. This certified plan must address the items below:

Any written policy or statement that outlines goals, objectives, and/or methods for source reduction and recycling of hazardous waste at the facility;

Any employee training or incentive programs designed to identify and implement source reduction and recycling opportunities;

Any source reduction and/or recycling measures implemented in the last five years or planned for the near future;

An itemized list of the dollar amounts of capital expenditures (plant and equipment) and operating costs devoted to source reduction and recycling of hazardous waste;

Factors that have prevented implementation of source reduction and/or recycling;

Sources of information on source reduction and/or recycling received at the facility (e.g., local government, trade associations, suppliers, etc.);

An investigation of additional waste minimization efforts, which could be implemented at the facility. This investigation shall analyze the potential for reducing the quantity and toxicity of each waste stream through production reformulation, recycling, and all other appropriate means. The analysis shall include an assessment of the technical feasibility, cost, and potential waste reduction for each option;

The Permittee shall submit a flow chart or matrix detailing all hazardous wastes it produces by quantity, type, and building/area.

The Permittee shall demonstrate the need to use those processes, which produce a particular hazardous waste due to a lack of alternative processes, or available technology that would produce less hazardous waste.

The Permittee shall include this certified plan in the operating record. This section applies to the RCRA Permit.

VII.B.2. DUST SUPPRESSION

Pursuant to the Part VIII.A. [Adopts by reference 40 CFR 266.23(b)] of the GHWMRs, the Permittee shall not use waste or used oil or any other material which is contaminated with dioxin, polychlorinated biphenyl's (PCBs), or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment. This section applies to the RCRA Permit.

VII.B.3. PERMIT MODIFICATION

If at any time for any of the reasons specified in Part X.A. [Adopts by reference 40 CFR 270.41]

of the GHWMRs, the Administrator determines that modification of this Permit is necessary, the Administrator may require the Permittee to request a permit modification per Permit Condition VII.B.3. or may initiate a modification according to Part XI.A. [Adopts by reference 40 CFR 124.5] of the GHWMRs, as follows:

Notify the Permittee in writing of the proposed modification and the date by which comments on the proposed modification must be received.

Publish a notice of the proposed modification in a locally distributed newspaper, broadcast the notice over a local radio station, mail a notice to all persons on the facility mailing list maintained according to Part XI.A. [Adopts by reference 40 CFR 124.10(c)(1)(ix)] of the GHWMRs, and place a notice in the facility's information repository (a central source of all pertinent documents concerning the remedial action, usually maintained at the facility or some other public place in the vicinity of the permitted facility, such as a public library).

If the Administrator receives no written comment on the proposed modification, the modification will become effective five (5) calendar days after the close of the comment period. The Administrator will:

Notify the Permittee in writing of the final decision.

Notify individuals on the facility mailing list in writing that the modification has become effective and shall place a copy of the modified permit in the information repository, if a repository is required for the facility.

If the Administrator receives written comment on the proposed modification, the Administrator will make a final determination concerning the modification after the end of the comment period.

The Administrator will:

Notify the Permittee in writing of the final decision.

Provide notice of the final modification decision in a locally distributed newspaper and place a copy of the modified permit in the information repository, if a repository is required for the facility.

The Permittee may initiate a permit modifications proceeding under Part X.A. [Adopts by reference 40 CFR 270.42] of the GHWMRs. All applicable requirements and procedures as specified in Part X.A. [Adopts by reference 40 CFR 270.42] of the GHWMRs shall be followed. Modifications of the Permit do not constitute a reissuance of the Permit.

VII.B.4. PERMIT REVIEW

This Permit may be reviewed by the Administrator three years after the date of permit issuance

and may be modified as necessary as provided for in Permit Condition VII.B.3. Nothing in this section shall preclude the Administrator from reviewing and modifying the Permit at any time during its term. This section applies to the RCRA Permit.

VII.B.5. COMPLIANCE WITH PERMIT

Compliance with this Permit during its term constitutes compliance, for the purposes of enforcement, with Parts VI.A. and Part VIII.A. [Adopts by reference 40 CFR Parts 264 and 266] of the GHWMRs, only for those management practices specifically authorized by this Permit. The Permittee is also required to comply with Parts II, III, IV.A., and V.A. [Adopts by reference 40 CFR Parts 260, 261, 262, and 263] of the GHWMRs as applicable.

VII.B.6. SPECIFIC WASTE BAN

The Permittee shall not place in any land disposal unit wastes specified in Part IX.A. [Adopts by reference 40 CFR Part 268] of the GHWMRs, after the effective date of the prohibition unless the Administrator has established disposal or treatment standards for the hazardous waste and the Permittee meets such standards and other applicable conditions of this Permit. Because OB/OD is a treatment process, it is not subject to the land disposal restrictions imposed by Section 3004(d) through (m) of RCRA (52 Federal Register 46952, Dec. 10, 1987).

The Permittee may store wastes restricted under Part IX.A. [Adopts by reference 40 CFR Part 268] of the GHWMRs, solely for the purpose of accumulating quantities necessary to facilitate proper recovery, treatment, or disposal provided that it meets the requirements of Part IX.A. [Adopts by reference 40 CFR 268.50(a)(2)] of the GHWMRs, including, but not limited to, clearly marking each tank or container.

The Permittee is required to comply with all requirements of Part IX.A. [Adopts by reference 40 CFR 268.7] of the GHWMRs as amended. Changes to the waste analysis plan will be considered permit modifications at the request of the Permittee; pursuant to Part X.A. [Adopts by reference 40 CFR 270.42] of the GHWMRs. The Permittee shall perform a waste analysis at least annually or when a process changes, to determine whether the waste meets applicable treatment standards. Results shall be maintained in the operating record.

The Permittee must comply with requirements restricting placement of hazardous wastes in or on land which become effective by statute or promulgated under Part IX.A. [Adopts by reference 40 CFR Part 268) of the GHWMRs, regardless of requirements in the Permit. Failure to comply with the regulations may subject the Permittee to enforcement action under the GHWMRs and Section 3008 of RCRA. This section applies to the RCRA Permit.

VII.B.7. INFORMATION SUBMITTAL

Failure to comply with any condition of the Permit, including information submittal, constitutes a violation of the Permit and is grounds for enforcement action, permit amendment, termination,

revocation, suspension, or denial of permit renewal application. Falsification of any submitted information is grounds for termination of this Permit in accordance with Part X.A. [Adopts by reference 40 CFR 270.43] of the GHWMRs.

The Permittee shall ensure that all plans, reports, notifications, and other submissions to the Administrator required in this Permit are signed and certified in accordance with Part X.A. [Adopts by reference 40 CFR 270.11] of the GHWMRs. A summary of the planned reporting requirements pursuant to this Permit is found in Table 1. Two (2) copies and one electronic copy each of these plans, reports, notifications, or other submissions shall be submitted to the Administrator by certified mail or hand delivered to:

Administrator
Guam Environmental Protection Agency
Post Office Box 22439, GMF
Barrigada, GU 96921
Attn: Solid and Hazardous Waste Management Program

An additional copy of these documents must be submitted to the following:

U.S. Department of the Interior
Fish and Wildlife Service
Pacific Islands Office
Post Office Box 50167
Honolulu, HI 96850
Attn: Field Supervisor

VII.B.8. PLANS AND SCHEDULES INCORPORATED INTO PERMIT

All plans and schedules required by this Permit are, upon approval by the Administrator, incorporated into this Permit by reference and become an enforceable part of this Permit. Since required items are essential elements of this Permit, failure to submit any of the required items or submission of inadequate or insufficient information may subject the Permittee to enforcement action under Section 3008 of RCRA which may include fines, suspension, or revocation of the Permit.

Any noncompliance with approved plans and schedules shall be termed noncompliance with this Permit. Written requests for extensions of due dates for submittals may be granted by the Administrator in accordance with Permit Condition VII.B.3.

If the Administrator determines that actions beyond those provided for, or changes to what is stated herein are warranted, the Administrator may modify this Permit according to procedures in Permit Condition VII.B.3.

VII.B.9. DATA RETENTION

All raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit shall be maintained at the facility during the term of this Permit, including any reissued Permits.

VII.C. SPECIFIC CONDITION - CLOSURE & POST-CLOSURE (Reserved)

VII.D. SPECIAL CONDITIONS

Within 30 days from the Issuance of the Permit, the Permittee shall submit to the Administrator up to date status reports for all the SWMUs and Areas of Concerns (AOCs) covered under this Permit and/or not being addressed under the Andersen Air Force Base Federal Facilities Agreement. The reports shall include all relevant documents in the corrective action process. Permittee shall address all relevant and appropriate comments from the Administrator.

VII.E. CORRECTIVE ACTION

VII.E.1. CORRECTIVE ACTION FOR RELEASES

Section 3004(u) of RCRA, as amended by HSWA, and Part VI.A. [Adopts by reference 40 CFR 264.101] of the GHWMRs require that permits issued after November 8, 1984, address corrective action for releases of hazardous wastes including hazardous constituents from any solid waste management unit (SWMU) at the facility and Andersen Air Force Base, regardless of when the waste was placed in the unit. (Table 2 lists the SWMUs and AOCs that are covered under this Permit. Updates of the status for each SWMU are provided through the Quarterly Progress Report as required in the Submission Summary (Table 1).

VII.E.2 RELEASES BEYOND FACILITY BOUNDARY

The Permittee shall notify the Administrator verbally, within 24 hours of discovery, of any release of hazardous waste or hazardous constituents that has the potential to migrate off-site.

Section 3004(v) of RCRA as amended by HSWA, and Part VI.A. [Adopts by reference 40 CFR 264.101(c)] of the GHWMRs, require corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where offsite access is denied.

VII.E.3. FINANCIAL RESPONSIBILITY

Assurances of financial responsibility for corrective action shall be provided as specified in the Permit following major modification for remedy selection. The federal government is exempt

from this requirement.

VII.E.4.DISPUTE RESOLUTION

The parties shall use their best efforts to informally and in good faith resolve all disputes or differences of opinion. If, however, disputes arise concerning the corrective action which the parties are unable to resolve informally, including but not limited to, disputes over implementation of work plans, approval of documents, scheduling of any work, selection, performance or completion of any corrective action, or any other obligation assumed hereunder, the Permittee shall present a written notice of such dispute and the basis for the objections to Guam EPA within ten business days of the receipt of Guam EPA's disapproval, decision or directive. The notice shall set forth the specific points of the dispute, the position the Permittee maintains should be adopted as consistent with the Permit's requirements, the basis therefore, and any matters which it considers necessary for Guam EPA's proper determination. Guam EPA shall provide to the Permittee a written statement of its decision on the pending dispute, which shall be incorporated into the final Permit unless the Permittee requests an opportunity for a conference. The existence of a dispute as defined herein and the consideration of such matters which are placed into dispute shall not excuse, toll, or suspend any compliance obligation or deadline while the dispute resolution process is pending.

If the Permittee objects to any Guam EPA determination regarding any requirement by Guam EPA that the Permittee perform work, the Permittee shall, within ten days of its receipt of Guam EPA's decision, notify the Administrator in writing of its objections, and may request an informal conference. The Administrator shall state in writing his/her decision regarding the factual issues in dispute. Such decision shall be the final resolution of the dispute and shall be implemented immediately by the Permittee according to the schedule contained therein.

VII.F. REPORTING REQUIREMENTS

The Permittee shall submit, in accordance with Permit Condition VII.B.7., signed quarterly progress reports of all activities (i.e., RFI, CMS) conducted pursuant to the provisions of this Permit beginning no later than ninety (90) calendar days from the effective date of this Permit. This first progress report shall satisfy the reporting requirements for the particular calendar quarter that occurs within the 90 calendar days from Permit issuance. Thereafter, progress reports will be made within each consecutive calendar quarter of the year(s). These reports shall contain:

A description of the work completed and an estimate of the percentage of work completed;

Summaries of all findings, including summaries of laboratory data;

Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems;

Projected work for the next reporting period;

Summaries of contacts pertaining to corrective action or environmental matters with representatives of the local community, public interest groups or State government during the reporting period;

Changes in key project personnel during the reporting period; and

Summaries of all changes made in implementation during the reporting period.

Copies of other reports (e.g., inspection reports), drilling logs and laboratory data shall be made available to the Administrator upon request.

In addition to the written reports, at the request of the Administrative Authority, the Permittee shall provide status review through semi-annual briefings with the Administrator.

VII.G. NOTIFICATION REQUIREMENTS FOR AND ASSESSMENT OF NEWLY-IDENTIFIED SOLID WASTE MANAGEMENT UNITS (SWMUs)

The Permittee shall notify the Administrator, in writing, of any newly-identified SWMU(s) (i.e., a unit not specifically identified during the RFA), discovered in the course of groundwater-monitoring, field investigations, environmental audits, or other means, no later than 30 calendar days after discovery. The notification shall include the following items, to the extent available:

The location of the newly-identified SWMU in relation to other SWMUs;

The type and function of the unit;

The general dimensions, capacities, and structural description of the unit (supply any available drawings);

The period during which the unit was operated;

The specifics, to the extent available, on all wastes that have been or are being managed at the SWMU; and

Results of any sampling and analysis required for the purpose of determining whether releases of hazardous waste including hazardous constituents have occurred, are occurring, or are likely to occur from the unit.

Based on the results of this Notification, the Administrator will determine the need for further investigations or corrective measures at any newly identified SWMU(s). If the Administrator determines that such investigations are needed, the Administrator may require the Permittee to prepare a plan for such investigations. This plan will be reviewed for approval as part of the RFI

Work Plan or a new RFI Work Plan under Permit Condition VII.J.3. The Permit will be modified according to Permit Condition VII.B.3., to incorporate the investigation requirements for the newly identified SWMU(s), if required.

VII.H. NOTIFICATION REQUIREMENTS FOR NEWLY-DISCOVERED RELEASES AT SWMU(s)

The Permittee shall notify the Administrator in writing, no later than fifteen (15) calendar days after discovery, of any release(s) of hazardous waste or hazardous constituents associated with a SWMU discovered during the course of ground water monitoring, field investigation, environmental auditing, or other means. Such newly discovered releases may be from newly-identified units or from units for which, based on the findings of the RFA, the Administrator had previously determined no further investigation was necessary. The Administrator may require further investigation and/or interim measures for the newly identified release(s), and may require the Permittee to prepare a plan for the investigation and/or interim measure. The plan will be reviewed for approval as part of the RFI Work Plan or a new RFI Work Plan under Permit Condition VII.J.3. The Permit will be modified according to Permit Condition VII.B.3., to incorporate the investigation, if required.

VII.I. INTERIM MEASURES

If during the course of any activity initiated under this Permit, the Administrator determines that a release or potential release of hazardous constituents from a SWMU poses a threat to human health and the environment, the Administrator may require interim measures. The Administrator shall determine the specific measure(s) or require the Permittee to propose a measure(s). The interim measure(s) may include a permit modification, a schedule for implementation, and a written plan. The Administrator shall notify the Permittee in writing of the requirement to perform interim measures. The Administrator shall modify this Permit according to Permit Condition VII.B.3. to incorporate interim measures into the Permit. The following factors will be considered by the Administrator in determining the need for interim measures:

Time required to develop and implement a final remedy;

Actual and potential exposure to human and environmental receptors;

Actual and potential contamination of drinking water supplies and sensitive ecosystems;

The potential for further degradation of the medium in the absence of interim measures;

Presence of hazardous wastes in containers that may pose a threat of release;

Presence and concentration of hazardous waste including hazardous constituents in soil that have the potential to migrate to ground water or surface water;

Weather conditions that may affect the current levels of contamination;

Risks of fire, explosion, or accident; and

Other situations that may pose threats to human health and the environment.

VII.J. RFI WORKPLAN

Table 1 specifies the due date for the RFI Work Plan "As Determined". The RFI Work Plan must address releases of hazardous waste or hazardous constituents to all media for those SWMUs and AOCs listed in Table 2.

The work plan shall describe the objectives of the investigation and the overall technical and analytical approach to completing all actions necessary to characterize the direction, rate, movement, and concentration of releases of hazardous waste or hazardous constituents from specific units or groups of units, and their actual or potential receptors. The RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility, the schedule for implementing and completing such investigations, the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI. The Scope of Work for a RCRA Facility Investigation (RFI) is in Permit Condition VII.R.

The RFI Work Plan shall describe sampling, data collection quality assurance, and data management procedures, including formats for documenting and tracking data and other results of investigations, and health and safety procedures.

Development of the RFI Work Plan and reporting of data shall be consistent with the following EPA guidance documents or the equivalent thereof:

RCRA Facility Investigation Guidance Document (EPA 530/SW-89-031) May 1989;

RCRA Groundwater Monitoring Technical Enforcement Guidance Document (OSWER 9950.1) September 1986; and

Test Methods for Evaluating Solid Waste (SW 846, 3rd ed.) 2007.

After the Permittee submits the work plan, the Administrator will approve, disapprove, or modify the work plan in writing.

If the Administrator approves the work plan, the Permittee shall begin implementing the plan within two weeks (14 days) of receipt of approval, according to the schedule contained in the plan. All approved work plans become incorporated into this Permit as per Permit Condition VII.B.8.

In the event of disapproval (in whole or in part) of the work plan, the Administrator shall specify

deficiencies in writing. The Permittee shall modify the plan to correct these within the timeframe specified in the notification of disapproval by the Administrative Authority. The modified work plan shall be submitted in writing to the Administrator for review. Should the Permittee take exception to all or part of the disapproval, the Permittee shall submit a written statement of the grounds for the exception within 10 days of receipt of the disapproval per Permit Condition VII.E.4.

The Administrator shall review for approval as part of the RFI Work Plan or as a new work plan any plans developed pursuant to Permit Condition VII.G., addressing further investigations of newly identified SWMUs, or Permit Condition VII.H., addressing new releases from previously-identified SWMUs.

VII.K. RFI IMPLEMENTATION

Upon receipt of written approval from the Administrator for the RFI Work Plan, the Permittee shall implement the RFI according to the schedules and in accordance with the approved RFI Work Plan and the following:

The Permittee shall notify the Administrator and EPA at least 10 days prior to any sampling, testing, or monitoring activity required by this Permit to give Agency personnel the opportunity to observe investigation procedures and/or split samples.

Substantive deviations from the approved RFI Work Plan which are necessary during implementation of the investigations must be approved by the Administrator and fully documented and described in the progress reports and in the RFI Final Report.

VII.L. RFI FINAL REPORT AND SUMMARY

Within sixty (60) calendar days after the completion of the RFI, the Permittee shall submit an RFI Final Report and Summary. The RFI Final Report shall describe the procedures, methods, and results of all investigations as described in Permit Condition VII.R.5. This includes SWMUs and their releases, the type and extent of contamination at the facility, sources and migration pathways, and actual or potential receptors. The RFI Final Report shall present all information gathered under the approved RFI Work Plan. The RFI Final Report must contain adequate information to support further corrective action decisions at the facility. The Summary shall summarize the RFI Final Report.

After the Permittee submits the RFI Final Report and Summary, the Administrator shall either approve or disapprove them in writing.

If the Administrator approves the RFI Final Report and Summary, the Permittee shall mail the approved Summary to all individuals on the facility mailing list established pursuant to 40 CFR 124.10(c)(1)(ix), within fifteen (15) calendar days of receipt of approval.

If the Administrator determines the RFI Final Report and Summary do not fully meet the objectives stated in Permit Condition VII.R., the Administrator may disapprove the RFI Final Report and Summary. If the Administrator disapproves the Report, the Administrative Authority shall notify the Permittee in writing of the Report's deficiencies and specify a due date for submittal of a revised Final Report and Summary. Once approved, the Summary shall be mailed to all individuals on the facility mailing list as specified above.

VII.M. DETERMINATION OF NO FURTHER ACTION

Based on the results of the RFI and other relevant information, the Permittee may submit an application to the Administrator for a Class III permit modification under Part X.A. of the GHWMRs [Adopts by reference 40 CFR 270.42(c)] to terminate the RFI/CMS process for a specific unit. This permit modification application must contain information demonstrating that there are no releases of hazardous waste including hazardous constituents from a particular SWMU at the facility that pose threats to human health and/or the environment, as well as additional information required in Part X.A. [Adopts by reference 40 CFR 270.42(c)] of the GHWMRs.

If, based upon review of the Permittee's request for a permit modification, the results of the RFI, and other information, including comments received during the sixty (60) days public comment period required for Class III permit modifications, the Administrator determines that releases or suspected releases which were investigated either are non-existent or do not pose a threat to human health and/or the environment, the Administrator will grant the requested modification. If necessary to protect human health or the environment, a determination of no further action shall not preclude the Administrator from requiring continued or periodic monitoring of air, soil, ground water, or surface water, when site-specific circumstances indicate that releases of hazardous waste or hazardous constituents are likely to occur.

A determination of no further action shall not preclude the Administrative Authority from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates a release or likelihood of a release from a SWMU at the facility that is likely to pose a threat to human health or the environment. In such a case, the Administrator shall initiate a modification to the Permit according to Permit Condition VII.B.3.

VII.N. CMS PLAN

If the Administrator has reason to believe that a SWMU has released concentrations of hazardous constituents, or if the Administrative Authority determines that contaminants present a threat to human health or the environment given site-specific exposure conditions, the Administrative Authority may require a CMS and shall notify the Permittee in writing. The notification may also specify remedial alternatives to be evaluated by the Permittee during the CMS.

The Permittee shall submit a CMS Plan to the Administrator within forty-five (45) calendar days from notification of the requirement to conduct a CMS. The Scope of Work for a CMS Plan is in

Permit Condition VII.S.3.

The CMS Plan shall provide the following information:

A description of the general approach to the investigation, and potential remedies;

A definition of the overall objectives of the study;

Specific plans for evaluating remedies to ensure compliance with remedy standards;

Schedules for conducting the study; and

The proposed format for the presentation of information.

After the Permittee submits the CMS Plan, the Administrator will approve, disapprove, or modify the plan in writing.

If the Administrator approves the CMS Plan, the Permittee shall implement the plan per Permit Condition VII.O.

In the event of disapproval (in whole or in part) of the CMS Plan, the Administrator shall specify deficiencies in writing. The Permittee shall modify the plan to correct these within the period specified in the notice of deficiency. The modified CMS Plan shall be submitted in writing to the Administrator for review. Should the Permittee take exception to all or part of the disapproval, the Permittee shall submit a written statement of the grounds for the exception within ten (10) days of receipt of the disapproval per Permit Condition VII.E.4.

VII.O. CMS IMPLEMENTATION

No later than fourteen (14) calendar days after the Permittee has received written approval from the Administrator for the CMS Plan, the Permittee shall implement the Corrective Measures Study according to the schedules specified and in accordance with the approved CMS Plan. All approved plans become incorporated into this Permit as per Permit ConditionVII.B.8.

VII.P. CMS FINAL REPORT AND SUMMARY

Within sixty (60) calendar days after the completion of the CMS, the Permittee shall submit a CMS Final Report and Summary. The Summary shall summarize the Final Report. The CMS Final Report shall discuss the results of investigations of each remedy studied and of any bench-scale or pilot tests conducted. It must include an evaluation of each remedial alternative. The CMS Final Report shall present all information gathered during the CMS, and must contain adequate information to support the remedy selection process. In the CMS Final Report, the Permittee shall propose a corrective action program that shall:

Attain compliance with corrective action objectives for hazardous constituents in each medium, as established in Permit Condition VII.S.;

Control sources of releases;

Meet acceptable waste management requirements; and

Protect human health and the environment.

After the Permittee submits the CMS Final Report and Summary, the Administrator will either approve or disapprove them in writing.

If the Administrator approves the CMS Final Report and Summary, the Permittee shall mail the approved Summary to all individuals on the facility mailing list established pursuant to 40 CFR 124.10(c)(1)(ix), within fifteen (15) calendar days of receipt of approval.

If the Administrator determines the CMS Final Report and Summary do not fully meet the objectives stated in Permit Condition VII.S., the Administrator may disapprove the CMS Final Report and Summary. If the Administrator disapproves the Report, the Administrative Authority shall notify the Permittee in writing of the Report's deficiencies and specify a due date for submittal of a revised Final Report and Summary. Once approved, the Summary shall be mailed to all individuals on the facility mailing list as specified above.

Based on preliminary results and the CMS Final Report, the Administrative Authority may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies.

VII.Q. CORRECTIVE MEASURE (REMEDY) SELECTION AND IMPLEMENTATION

Within fifteen (15) calendar days from receipt of approval of CMS Final Report and Summary, the Permittee shall submit a Permit Modification request according to Permit Condition VII.B.3., for corrective measure (remedy) selection, based on the approved CMS Final Report. The resultant modified permit will include schedules for remedy implementation.

VII.R. RFI SCOPE OF WORK

VII.R.1. PURPOSE

The purpose of the RFI is to determine whether a release of hazardous wastes or hazardous constituents has occurred and the nature and extent of releases of hazardous wastes or hazardous constituents from the solid waste management units. The required information shall include each item specified under Tasks I-III. The Permittee shall furnish all personnel, materials, and services necessary for, or incidental to, performing the RFI.

If the Permittee believes that certain requirements of the Scope of Work are not applicable, the specific requirements shall be identified and a detailed rationale for inapplicability shall be provided.

VII.R.2. SCOPE

The RFI consists of three tasks:

TASK I: RFI WORKPLAN

Introduction

Environmental Setting

Source Characterization

Contamination Characterization

Potential Receptor Identification

Data Collection Quality Assurance Plan

Data Management Plan

Health and Safety Plan

Community Relations Plan

Project Management Plan

Task II: RCRA Facility Investigation

Task III: RFI Final Report and Summary

VII.R.3. Task I: RFI Work Plan

The Permittee shall prepare a RFI Work Plan as specified in Permit Condition VII.J. The RFI Work Plan shall provide for and address the following information needs:

VII.R.3.a. Introduction

VII.R.3.a.1. Facility Description

The introduction shall summarize the regional location, pertinent boundary features, general facility physiography, hydrogeology, and historical use of the facility for the treatment, storage, or disposal of solid and hazardous waste. Information from existing reports and studies is acceptable, as long as the source of this information is documented, pertinent, and reflective of current conditions. This section shall include:

Map(s) depicting the information specified below. All maps shall be consistent with requirements set forth in Part X.A. [Adopts by reference 40 CFR 270.14] of the GHWMRs and shall be of sufficient detail and accuracy to locate all current and future work performed at the site.

General geographic location;

Property lines, with the owners of all adjacent property clearly indicated, and all land previously owned and/or used by the Permittee around the facility;

Topography, waterways, wetlands, floodplains, water features, and drainage-patterns;

All tanks, buildings, utilities, paved areas, rights-of-way, and other features;

All solid waste management units;

All known past solid or hazardous waste treatment, storage and disposal areas or units regardless of whether they were active on November 19, 1980;

Surrounding land uses (residential, commercial, agricultural, recreational); and

The location of all production and ground water monitoring wells. These wells shall be clearly labeled and ground and top of casing elevations included (these elevations may be included as an attachment).

A history and description of ownership and operation, solid and hazardous waste generation, treatment, storage and disposal activities at the facility.

A summary of approximate dates or periods of past waste releases, identification of the materials released, the amount released, the location released, and a description of the response actions conducted (local, state, or Federal response units, or private parties), including any inspection reports or technical reports generated as a result of the response.

A reference to all environmental, geologic, and hydrogeologic studies performed by all parties, at or near the facility, with a short summary of the purpose, scope, and significant findings thereof.

A reference to all environmental permits, applied for and/or received, the purpose thereof, and a short summary of requirements.

VII.R.3.a.2. Nature and Extent of Contamination

The Introduction shall summarize all possible source areas of contamination. This, at a minimum, should include all SWMUs. For each area, the Permittee shall identify the following:

Location of unit/area on a facility map;

Quantities of solid, hazardous, and radiochemical wastes;

Quantities of radiochemical and hazardous constituents, to the extent known; and

Identification of areas where additional information is necessary.

The Permittee shall prepare an assessment and description of the existing degree and extent of contamination. This should include:

Available monitoring data and qualitative information on locations and levels of contamination at the facility;

All potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, meteorology, and air quality; and

The potential impact(s) on human health or the environment, including demography, groundwater, and surface water use, and land use.

VII.R.3.a.3. Implementation of Interim Measures

The Permittee shall document and report on all interim measures which were or are being undertaken at the facility, including under state or Federal compliance orders, other than those specified in the Permit. This shall include:

Objectives of the interim measures: how the measure is mitigating a potential threat to human health or the environment and/or is consistent with and integrated into requirements for a long term solution;

Schedules for design, construction and monitoring; and

Schedule for progress reports.

VII.R.3.b. Environmental Setting

The work plan shall provide for collection of information to supplement and verify existing information on the environmental setting at the facility. The work plan shall provide for characterization of the following:

VII.R.3.b.1. Hydrogeology

The work plan shall describe in detail a program to evaluate hydrogeologic conditions at the facility. This program shall provide for least the following information needs:

A description of the regional, local, facility wide and SWMU-specific geologic and hydrogeologic characteristics affecting ground water flow beneath the facility.

An analysis of any topographic features including surface water bodies that might influence the ground water flow system.

A representative and accurate classification and description of the hydrogeologic units which may be part of migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units) based on field data, tests (e.g., gamma and neutron logging of existing and new wells, piezometers and borings), and cores.

The extent (depth, thickness, lateral extent) of hydrogeologic units which may be part of migration pathways based on field studies and cores, structural geology, and hydrogeologic cross sections, including:

Unconsolidated sand and gravel deposits;

Zones of fracturing or channeling in consolidated or unconsolidated deposits; and

Zones of high permeability or low permeability that might direct and restrict the flow of contaminants.

A description of representative water level or fluid pressure based on data obtained from ground water monitoring wells and piezometers installed up gradient and down gradient of the potential contaminant source. Information needs include: potentiometric surface maps; hydrologic cross sections showing vertical gradients; vertical and horizontal components of flow; temporal changes in hydraulic gradients; and flow nets.

A description of man-made influences that may affect site hydrogeology such as active and inactive local water supply and production wells, pipelines, french drains, and ditches.

VII.R.3.b.2. Soils

The Permittee shall describe in detail a program designed to characterize soil and rock units above the water table. Such characterization shall include, but is not limited to, the following information: surface soil distribution; soil profile, including ASTM and USCS classifications of soils; transects of soil stratigraphy; saturated hydraulic conductivity; porosity; cation exchange capacity (CEC); soil pH; particle size distribution; depth to water table; moisture content; effect of stratification on unsaturated flow; infiltration; evapotranspiration; residual concentration of

contaminants in soil; total natural organic carbon content; and mineral and metal content.

VII.R.3.c. Source Characterization

The Permittee shall describe in detail a program designed to completely characterize the wastes and the areas where wastes have been placed, including: type, quantity, physical form, composition, disposition (containment and nature of wastes), and the facility characteristics affecting releases (e.g., facility security, engineered barriers). This shall include quantification of the following specific characteristics, at each source area:

Unit/disposal area characteristics, including but not limited to: location of unit/disposal area; type of unit/disposal area; design features; operating practices (past and present); period of operation; age of unit/disposal area; general physical conditions; and method used to close the unit/disposal area.

Waste characteristics, including but not limited to: type of waste placed in unit (hazardous classification, quantity, chemical composition); physical and chemical characteristics (physical form, physical description, temperature, pH, general chemical class, molecular weight, density, boiling point, viscosity, solubility in water, solubility in solvents, cohesiveness, vapor pressure); and migration and dispersal characteristics of the waste (sorption coefficients, biodegradability, photo degradation rates, hydrolysis rates, chemical transformations).

VII.R.3.d. Contamination Characteristics

The Permittee shall describe in detail a program to collect analytical data on ground water, soils, surface water, sediment, and subsurface gas contamination when necessary to characterize contamination from a SWMU. The data shall be sufficient to define the extent, origin, direction, and rate of movement of contaminant plumes. Data required shall include time and location of sampling, concentration found, media sampled, conditions during sampling, and the identity of the individual(s) performing the sampling and analysis. Each medium (ground water, surface water and sediments, soil, air, and gas) must be investigated. If the Permittee believes certain media could not be affected by a release from a specific unit, a detailed justification for not investigating those media must be provided. The Permittee shall address the following types of contamination at the facility:

VII.R.3.d.1. Groundwater Contamination

The work plan shall describe in detail a program of ground water investigation to characterize any plumes of contamination at the facility. The program shall at a minimum provide for the following information:

A description of the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the facility;

The horizontal and vertical direction of contamination movement;

The velocity of contaminant movement;

The horizontal and vertical concentrations of any 40 CFR Part 264 Appendix IX constituents reasonably expected to be present in the plume;

An evaluation of factors influencing the plume movement; and

An extrapolation of future contaminant movement.

VII.R.3.d.2. Soil Contamination

The Permittee shall describe in detail a program to characterize contamination of soil and rock units above the water table near the contaminant release. The program shall provide for the following information:

A description of the vertical and horizontal extent of contamination;

A description of contaminant and soil chemical properties within the contaminant source area. This includes contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation, natural total organic carbon content, and other factors that might affect contaminant migration and transformation.

Plume migration and transformation; specific contaminant concentrations; the velocity and direction of contaminant movement; and an extrapolation to future contaminant movement.

VII.R.3.d.3. Surface Water and Sediment Contamination

The Permittee shall describe in detail a program to characterize contamination in surface water bodies and sediment resulting from contaminant releases at the facility. The investigation shall at minimum include the following:

A description of the surface water body including location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies, drainage patterns, and evapotranspiration rates.

A description of sediment characteristics including depositional area, thickness, mineralogy, grain size, density, ion exchange capacity, and total natural organic carbon content.

Maps for all areas included in surface water and sediment investigations, which meet requirements in 40 CFR 270.14 and which are sufficiently detailed and accurate to depict all the information required.

A description of the horizontal and vertical extent of any immiscible or dissolved plumes

originating from the facility, and the extent of contamination in the underlying sediments; the horizontal and vertical direction and velocity of contaminant movement;

An evaluation of the physical, biological, chemical, and radiochemical factors influencing contaminant movement;

An extrapolation to future contaminant movement;

A description of the chemistry of the contaminated surface waters and sediments. This includes pH, temperature, total dissolved solids, total suspended solids, biochemical oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients, chemical oxygen demand, total organic carbon, and specific contaminant concentrations.

VII.R.3.d.4. Air Contamination

The Permittee shall describe in detail a program to characterize particulate and gaseous contaminants released into the atmosphere. This investigation shall provide the following information:

A description of the horizontal and vertical direction and velocity of contaminant movement;

The rate and quantity of the release;

The chemical, radiochemical, and physical composition of the contaminants released;

Horizontal and vertical concentration profiles.

VII.R.3.d.5. Subsurface Gas

The Permittee shall describe in detail a program to characterize the nature, rate, and extent of releases of reactive gases from the units. Such a program shall include, but is not limited to: provisions for monitoring subsurface gases released from the unit, and an assessment of the potential for threat to human health and/or the environment.

VII.R.3.d.6. Potential Receptors

The Permittee shall describe in detail a program to collect data to describe human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical and radiochemical analysis of biological samples may be needed. Data on observable effects in ecosystems may also be required. The following characteristics shall be identified:

Local uses and possible future uses of ground water, including:

Type of use (i.e., potable, domestic, agricultural, residential, industrial, municipal)

Location of all ground waterwells, names of owners or tenants at those locations, USGS/DOD well designations, and current use of those wells within one (1) mile radius of facility.

Local uses and possible future uses of surface waters within a 1.5 mile radius of the facility, including domestic and municipal, recreational, agricultural, industrial, and environmental.

Human use of or access to the facility and adjacent lands, including but not limited to recreation, hunting, residential, commercial, and industrial.

A demographic profile of people who use or have access to the facility and adjacent land, including, but not limited to age, gender, and sensitive subgroups.

A description of the local ecology, including biota in surface water bodies on, adjacent to, or affected by the facility, and a description of any endangered or threatened species near the facility.

VII.R.3.d.7. Data Collection Quality Assurance Plan

The Permittee shall prepare a plan to document all monitoring procedures: sampling, field measurements, and sample analysis performed at the facility during the investigation to characterize the environmental setting, source, and contamination, so as to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented.

The strategy section of the Data Collection Quality Assurance Plan shall include but not be limited to the following:

Description of the intended uses for the data, and the necessary level of precision and accuracy for those intended uses;

Description of methods and procedures to be used to assess the precision, accuracy and completeness of the measurement data;

Schedule and information to be provided in quality assurance reports, including at least:

Periodic assessment of measurement data accuracy, precision, and completeness;

Results of performance audits;

Results of systems audits; and

Significant quality assurance problems and resolutions.

The Sampling and Field Measurements Section of the Data Collection Quality Assurance Plan

shall at least discuss:

Selecting appropriate sampling and field measurement locations, depths, etc.;

Providing a statistically sufficient number of sampling and field measurement sites;

Determining conditions under which sampling or field measurements shall be conducted;

Determining which parameters are to be measured and where;

Selecting the frequency of sampling and length of sampling period;

Selecting the types of sample (e.g., composites vs. grabs) and number of samples to be collected;

Delineating procedures designed to prevent contamination of sampling or field measurements equipment and cross contamination between sampling points;

Documenting field sampling operations and procedures;

Selecting appropriate sample containers;

Reserving samples;

Controlling chain-of-custody; and

Disposing of all contaminated materials generated by activities in a manner compliant with all state and Federal regulations.

The Sample Analysis shall include:

Chain-of-custody procedures;

Sample storage procedures and holding times;

Sample preparation methods;

Analytical procedures;

Calibration procedures and frequency;

Data reduction, validation and reporting; and

Frequency of internal quality control checks and laboratory performance audits.

VII.R.3.d.8. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and setup data documentation materials and procedures (data record), project file requirements, and project-related progress reporting procedures and documents.

The data record shall include at least the following for all sample and field measurements: unique measurement code; measurement location; measurement type; laboratory ID number; property or component analyzed; and results of analysis.

The Data Management Plan shall provide the format to be used to present the data and conclusions of the investigation, etc.

The following shall be presented in tables: raw data; data sorted by significant features such as location, media, constituent; data reduction for statistical analysis; and summary data.

The following shall be presented in graphical formats (e.g., bar graphs, line graphs, plan maps, isopleth plots, cross-sections, three-dimensional displays, etc.): sampling location and grid; levels of contamination at each sampling location; geographical extent of contamination; and changes in concentration relative to source, time, depth, and other parameters.

VII.R.3.d. 9. Health and Safety Plan

The Permittee shall prepare a facility Health and Safety Plan, which shall include:

A description of the facility including availability of resources such as roads, water supplies, electricity and telephone services;

A description of the known hazards and evaluation of the risks associated with each activity conducted, including but not limited to on and off-site exposure to contaminants during implementation of interim measures;

A list of key personnel and alternatives responsible for site safety, response operations, and for protection of public health;

A delineation of the work area;

A description of levels of protection to be worn by personnel in the work area;

Procedures established to control site access;

Decontamination procedures for personnel and equipment;

Site emergency procedures;

Emergency medical care procedures for injuries and toxicological problems;

Requirements for an environmental field monitoring program;

Routine and special training requirements for responders; and

Procedures for protecting workers from weather-related problems.

The Facility Health and Safety Plan shall comply with the OSHA regulations, particularly 29 CFR 1910 and 1926, and state and local regulations, as applicable.

VII.R.3.d.10. Community Relations Plan

The Permittee shall prepare a plan for dissemination of information to the public regarding investigation activities and results.

VII.R.3.d.11. Project Management Plan

The Permittee shall prepare a Project Management Plan, which will include a discussion of the technical approach, schedules, budget, and essential project personnel. The project management plan will also include a description of qualifications of important project personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RFI.

VII.R.4. Task II: RCRA Facility Investigation

The facility investigation activities shall follow the RFI Work Plan. All sampling and analyses shall be conducted in accordance with the Data Collection Quality Assurance Plan. All sampling locations shall be documented in a log and identified on a detailed site map. During the RFI, it may be necessary to revise the RFI Work Plan to increase or decrease the detail of information collected to accommodate the facility specific situation.

The Permittee shall conduct investigations of SWMUs previously identified with known or suspected releases of contamination to characterize the facility (Environmental Setting), define the source (Source Characterization), define the degree and extent of contamination (Contamination Characterization), and identify actual or potential receptors.

The investigations should result in data of adequate technical quality to develop and evaluate corrective measure alternatives during the Corrective Measures Study, when necessary.

VII.R.5. Task III: RFI Final Report and Summary

The Permittee shall analyze all facility investigation data collected during the RFI process and prepare a detailed report on the type and extent of contamination at the facility including sources and migration pathways. All information generated during the investigation shall be presented and analyzed. All evidence and procedures used for making any determinations (e.g., velocity of groundwater, extent of contamination) shall be fully documented. The report shall describe extent of contamination (qualitative/quantitative) in relation to background levels indicative for the area. The report shall contain the results of all tests, calculations, inspections, record searches, and observations. It shall contain soil and ground water contamination profiles, statistical comparisons, and the results of all sampling events conducted as part of the investigation. It shall display results in tables, graphs, maps, and cross sections as discussed in the Data Management Plan and Permit Condition VII.R.3.g.2.

The Permittee shall identify all relevant and applicable standards for the protection of human health or the environment (e.g., National Ambient Air Quality Standards, federally approved state water quality standards, groundwater protection standards, etc.)

Data shall be evaluated to ensure it is sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, to evaluate the potential threat to human health or the environment, and to support a CMS, if required. The report shall present all data in an Appendix.

VII.R.5.a. General RFI Reporting Requirements

Two hard copies and one compact disc copy of all reports and data shall be submitted by the Permittee to the Administrator as specified in Permit Condition VII.B.7.

The RFI Work Plan shall be submitted by the Permittee to the Administrative Authority as described in Permit Condition VII.J.

The RFI Final Report and Summary shall be submitted by the Permittee to the Administrator as described in Permit Condition VII.L.

Within ninety (90) days of the effective date of this Permit, the Permittee shall provide the Administrator with signed, quarterly progress reports as specified in Permit Condition VII.F.1.

VII.S. CORRECTIVE MEASURES STUDY (CMS) SCOPE OF WORK

VII.S.1. Purpose

The purpose of the CMS is to develop and evaluate corrective measure alternatives and to recommend the corrective measure or measures to be taken. The required information shall include each item specified under CMS Tasks IV-VI. The Permittee will furnish the personnel, materials, and services necessary to prepare the CMS, except as otherwise specified.

If the Permittee believes that certain requirements of the Scope of Work are not applicable, the specific requirements shall be identified and the rationale for inapplicability shall be provided.

VII.S.2. Scope

The Corrective Measure Study consists of three tasks:

Task IV: CMS Plan

a. Description of Current Situation

b. Establishment of Corrective Action Objectives

c. Description of Approach to CMS

d. Schedule for CMS

Task V: Corrective Measures Study

a. Identification of Corrective Measures Alternatives(s)

b. Screening of Corrective Measures Alternatives(s)

c. Development of Corrective Measures Alternative(s)

d. Evaluation of Corrective Measures Alternative(s)

e. Selection of Corrective Measures Alternative(s)

Task VI: CMS Final Report and Summary

VII.S.3. Task IV: CMS Plan

Description of Current Conditions

The Permittee shall briefly describe current conditions at the facility to update information provided in the RFI Final Report and Summary. This shall include previous and/or ongoing remedial activity or interim measures.

Establishment of Corrective Action Objectives

The Permittee shall propose to the Administrator for review and approval, facility specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the

requirements of any applicable Federal statutes and regulations.

Description of Approach to CMS

The Permittee shall describe the general approach to the corrective measures study. The approach shall include identification, development, screening, and evaluation of the corrective measure alternatives, as discussed in detail in Permit Condition VII.S.4. The Permittee shall describe specific plans for laboratory and bench-scale studies, or field studies, if needed. Specific plans for evaluating remedy effectiveness shall also be developed. The approach shall specify formats to be used for data presentation, including raw data, maps, charts, graphs, engineering schematics, construction design, etc.

Schedule

The Permittee shall develop a schedule for implementing the corrective measures study, and a schedule for submitting quarterly progress reports on the study implementation.

VII.S.4. Task V: Corrective Measures Study

The CMS consists of five (5) parts: identification, screening, development, evaluation, and selection of the corrective measure alternative(s).

VII.S.4.a. Identification of Preliminary Corrective Measure Alternative(s)

Based on the results of the RFI and the CMS Plan objectives, the Permittee shall identify all possible alternatives for removal, containment, treatment, and/or other remediation of the contamination.

VII.S.4.b. Screening of Preliminary Corrective Measure Alternatives

The Permittee shall screen the identified preliminary corrective measures alternatives to eliminate those that may not prove feasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective action objective within a reasonable time period. This screening process focuses on eliminating those technologies, which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technological limitations.

Site, waste, and technological characteristics, which are used to screen in applicable technologies, are described in more detail below:

Site Characteristics. Site data should be reviewed to identify conditions, which may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.

Waste Characteristics. Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by waste characteristics should be eliminated from consideration.

Technological Limitations. The level of technology development, performance records, and operation and maintenance problems shall be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process.

VII.S.4.c. Development of Corrective Measures Alternatives

The Permittee shall develop corrective measures alternatives based on corrective measures objectives, and identification and screening of preliminary alternatives. The Permittee shall rely on engineering practices to determine which of the previously identified and screened technologies appear most suitable for the site. Technologies can be combined to form the overall corrective measure alternatives. The alternatives developed should represent a workable number of options that each appears to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies.

When a new technology is proposed or similar waste streams have not routinely been treated or disposed of using the technology, the Permittee shall conduct laboratory and/or bench-scale studies to determine the applicability to facility conditions. The Permittee shall analyze the technologies, based on literature review, vendor contracts, and past experience to determine the testing requirements.

The Permittee shall develop a testing plan identifying the type(s) and goal(s) of the study (ies), the level of effort needed, and the procedures to be used for data management and interpretation. Upon completion of testing, the Permittee shall evaluate the testing results to assess the technology or technologies with respect to the site-specific questions identified in the test plan.

The Permittee shall prepare a report summarizing the testing program and its results, both positive and negative.

VII.S.4.d. Evaluation of Corrective Measures Alternative(s)

The Permittee shall evaluate each corrective measure alternative developed in Permit Condition VII.S.4.c. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates for each corrective measure.

VII.S.4.d.1. Technical, Environmental, Human Health and Institutional Concerns

The Permittee shall provide a description of each corrective measures alternative which includes

but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

Technical - The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability, and safety.

The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:

Effectiveness shall be evaluated in terms of the ability to perform intended functions such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation.

Any specific waste or site characteristics, which could potentially impede effectiveness, shall be considered. The evaluation should also consider the effectiveness of combinations of technologies.

Useful life is defined as the length of time the level of effectiveness can be maintained. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

The Permittee shall provide information on the reliability of each corrective measure including operation and maintenance requirements and demonstrated reliability:

Operation and maintenance requirements include the frequency and complexity of operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered.

Demonstrated and expected reliability is a way of measuring risk and effect of failure. The Permittee should evaluate whether technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

The Permittee shall describe the implementation of each corrective measure including relative ease of installation and total time required achieving a given level of response.

Construction is determined by conditions both internal and external to facility conditions and includes such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of facility (i.e., remote location vs. congested urban area). The

Permittee shall evaluate what measures can be taken to facilitate construction under site specific conditions. External factors, which affect implementation, include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities.

Time has two (2) components to be addressed: the time it takes to implement a corrective measure and the time it takes to see beneficial results. Beneficial results are defined as the reduction of contaminants to acceptable levels as established in the corrective measures objectives.

The Permittee shall evaluate each corrective measure alternative about safety. This evaluation shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Factors to consider include fire, explosion, and exposure to hazardous substances.

Environmental: The Permittee shall perform an Environmental Assessment for each alternative. The assessment shall focus on facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include at a minimum, an evaluation of the short- and long-term beneficial and adverse effects of the response alternative, evaluation of any adverse effects on environmentally sensitive areas, and an analysis of measures to mitigate adverse impacts.

Human Health: The Permittee shall assess each alternative in terms of the extent to which it mitigates short- and long-term potential exposure to any residual contamination and protects human health both during and after implementation of the corrective measure. The assessment will describe the levels and characterizations of contaminants on-site, potential exposure routes, and potentially affected populations. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time. For management of mitigation measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or regulations acceptable to the Administrator.

Institutional: The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, State, and Local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative shall be considered, as applicable.

VII.S.4.d.2. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative and for each phase or segment of the alternative. The cost estimate shall include capital, and operation

and maintenance costs.

VII.S.4.d.2.a. Capital costs consist of direct and indirect costs.

Direct capital costs include:

Construction costs: Cost of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure alternative;

Equipment costs: Costs of treatment, containment, disposal, and/or servicing of equipment used to implement the action;

Land and site development costs: Expenses associated with purchase of land and development of existing property; and

Building and services costs: Costs of process and non-process buildings, utility connections, purchased services, and disposal costs.

Indirect capital costs include:

Engineering expenses: Costs of administration, design, construction, supervision, drafting, and testing of corrective measure alternatives;

Legal fees and license or permit costs: Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

Start-up and shakedown costs: Costs incurred during corrective measure start-up; and

Contingency allowances: Funds to cover costs resulting from unforeseen circumstances such as adverse weather conditions, strikes, and inadequate facility characterization.

VII.S.4.d.2.b. Operation and maintenance costs (O&M)

O&M costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

Operating labor costs: Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operation;

Maintenance materials and labor costs: Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

Auxiliary materials and energy: Costs of such items as chemicals and electricity for treatment

plant operations, water and sewer service, and fuel;

Purchased services: Sampling costs, laboratory fees, and professional fees, which can be predicted;

Disposal and treatment: Costs of transporting, treating, and disposing of waste materials, such as treatment plant residues, generated during operation;

Administrative costs: Costs associated with administration of corrective measures operation and maintenance not included under other categories;

Insurance, taxes, and licensing costs: Costs of such items as liability and accident insurance; real estate taxes on purchased land or rights-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

Maintenance reserve and contingency funds: Annual payments into escrow funds to cover costs of anticipated replacement or rebuilding of equipment, and any large unanticipated operation and maintenance costs; and

Other costs: Items that do not fit any of the above categories.

VII.S.4.e. Selection of Corrective Measures Alternative(s)

The Permittee shall select a corrective measure alternative using technical, human health, and environmental criteria. At a minimum, the following criteria shall be used to select the final corrective measure or measures.

VII.S.4.e.1. Technical

Performance - Corrective measure or measures which are most effective at performing their intended functions and maintaining performance over extended periods of time will be given preference;

Reliability - Corrective measure or measures which do not require frequent or complex operation and maintenance activities and have proven effective under conditions similar to those anticipated will be given preference;

Implementability - Corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and
Safety - Corrective measure or measures, which pose the least threat to the safety of nearby residents and environments as well as workers during implementation, will be preferred.

VII.S.4.e.2. Human Health

The corrective measure or measures must comply with existing EPA criteria, standards, or regulations for the protection of human health. Corrective measures, which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time, are preferred.

VII.S.4.e.3. Environmental

The corrective measure or measures imposing the least adverse impact or greatest improvement on the environment over the shortest period of time will be preferred.

VII.S.5. Task VI: CMS Final Report and Summary

The Permittee shall prepare a CMS Final Report and Summary presenting the results of the CMS and recommending a corrective action program. The Report shall at a minimum include:

A summary of all the corrective measure alternatives originally identified, and the screening rationale employed. The results of development of each alternative shall be described, and the evaluation of those developed shall be presented in detail. The report will describe the rationale for selection of a corrective measures alternative, including performance expectations, preliminary design criteria and rationale, general operation and maintenance requirements, and long-term monitoring requirements. The report shall include summary tables, which allow the alternative or alternatives to be easily understood. Tradeoffs among health risks, environmental effects, and other pertinent factors shall be highlighted.

A proposed corrective action program that will attain compliance with concentration level objectives, control sources of releases, meet acceptable waste management requirements, and protect human health and the environment.

Design and implementation precautions, including special technical problems, additional engineering data required, permits and regulatory requirements, access, easements, and right-of-way, health and safety requirements, and community relations activities.

Cost estimates and schedules including capital cost estimate, operation and maintenance cost estimate, and project schedule (design, construction, and operation).

A schedule for corrective measures (remedy) implementation.

VII.S.5.a. General CMS Reporting Requirements

Two (2) hard copies and electronic copy of all reports shall be submitted by the Permittee to the Administrator as specified in Permit Condition VII.B.7.

The CMS Plan shall be submitted by the Permittee to the Administrative Authority as described

in Permit Condition VII.N.

The CMS Final Report and Summary shall be submitted by the Permittee to the Administrator as described in Permit Condition VII.P.

Within ninety (90) days of the date the Permittee is notified to begin a CMS, the Permittee shall provide the Administrator with signed, quarterly progress reports as specified in Permit Condition VII.F.1.

VIII. Project Coordinator

Within ninety (90) days of the effective date of this Permit, the Permittee shall designate a Project Coordinator and shall notify the Administrator and USEPA Region IX in writing of the Project Coordinator it has selected. The Permittee's Project Coordinator shall be responsible for overseeing the implementation of corrective action at the facility in accordance with this Part (Corrective Action) of the Permit and for designating a person to act in his or her absence.

The Permittee must provide at least seven (7) days written notice to the Administrator and USEPA Region IX before changing the Project Coordinator.

Table 1: FACILITY CORRECTIVE ACTION SUBMISSION SUMMARY

Below is a summary of the planned reporting requirements pursuant to this Permit:

Facility Submission/Action Requirements	Due Date
Designate Project Coordinator	Ninety (90) days from effective date of Permit
Notification of newly-identified SWMUs	Fifteen (15) calendar days after discovery
Notification of newly discovered releases	Fifteen (15) calendar days after discovery
Progress Reports on all activities	Quarterly, monthly, etc. no later than ninety (90) calendar days after Permittee is required to begin implementation.
SWMU Assessment Report	Thirty (30) calendar Days after the completion of the implementation of SWMU Assessment Plan
RFI Work Plan	As determined
Revised RFI Work Plan	As determined
Start RFI Implementation	Thirty (30) days from written approval
RFI Report and Summary Report	Sixty (60) calendar days after completion of RFI
Revised RFI Report and Summary Report	Thirty (30) calendar Days after notification of deficiency
Interim Measures Plan for interim measures required after permit issuance	Thirty (30) calendar days after notification
Revised Interim Measure Plan	As determined

Table 2: AOCs/SWMUs Listing

No.	Site ID	Location	Name	Permit	FFA	Status[1]
1	AOC 1	19017	Hazardous Waste Storage Facility	X		NFRAP
2	AOC 2	19013	Hazardous Waste Accumulation/Storage Area		X	Under Investigation
3	AOC 4	9016	Asbestos Disposal Trench		X	NFRAP
4	AOC 5	North field	Trench of EIS Site 4		X	IRP2
5	AOC 7A	18006	Aircraft Maintenance Shop – Battery shops	X		NFRAP
6	AOC 7B	18006	Aircraft Maintenance Shop – Underground Storage Tanks		X	NFRAP
7	AOC 7C	18006	Aircraft Maintenance Shop – Waste Products Storage Area		X	NFRAP
8	AOC 7D	18006	Aircraft Maintenance Shop – Degreasing Unit		X	NFRAP
9	AOC 8	2550	Former Firefighter Training Area 3		X	IRP2
10	AOC 9	North field	Oil Blending Facility		X	NFRAP
11	AOC 29	18018	Hazardous Waste Storage Area	X		NFRAP
12	SWMU 4	19015	Outside Aircraft Washrack Oil/Water Separator		X	Clean-Up Complete1
13	SWMU 6	18027	Outside Drum Storage Area		X	NFRAP
14	SWMU 7	18017	Inside Washrack Oil/Water Separator	X		Active OWS
15	SWMU 8A	18004	Outside Drum Storage Area		X	Clean-Up Complete1
16	SWMU 8B	18004	East Oil/Water Separator		X	Active OWS Clean-Up Complete2
17	SWMU 8C	18004	West Oil/Water Separator		X	OWS Removed2 Clean-Up Complete2
18	SWMU 9	18006	Outside Drum Storage Area		X	NFRAP
19	SWMU 10	17006	Outside Drum Storage Area		X	NFRAP
20	SWMU 11	20021	Outside Drum Storage Area		X	Clean-Up Complete1
21	SWMU 12	18040	Outside Drum Storage Area		X	Clean-Up Complete1
22	SWMU 13A	2600	Outside Drum Storage Area		X	NFRAP

No.	Site ID	Location	Name	Permit	FFA	Status[1]
23	SWMU 13B	2600	Oil/Water Separator	X		OWS Removed2 NFRAP1/2
24	SWMU 15	2550	Buildings 2550 and 2552 Oil/Water Separator		X	Under Investigation
25	SWMU 16A	26229	Oil/Water Separator	X		Active OWS Under Investigation
26	SWMU 16C	26229	Waste Oil Storage Tanks		X	NFRAP
27	SWMU 17	26051	Oil/Water Separator		X	Active OWS Clean-Up Complete2
28	SWMU 18	14507	Outside Drum Storage Area		X	Clean-Up Complete1
29	SWMU 20D	26101	Service Station: Outside Drum Storage Area		X	NFRAP
30	SWMU 20E	26101	Service Station: In-ground Sumps and Trenches		X	NFRAP
31	SWMU 21C	26000	USAF Clinic, Photo lab: Incinerator	X		NFRAP
32	SWMU 22A	18017	Aircraft Corrosion Control: Inside Drum Storage Area		X	NFRAP
33	SWMU 22B	18017	Aircraft Corrosion Control: Inside Storage Room		X	NFRAP
34	SWMU 22C	18017	Aircraft Corrosion Control: Outside Drum Storage Area		X	NFRAP
35	SWMU 23A	18004	Hazardous Waste Satellite Accumulation Point	X		NFRAP
36	SWMU 23B	18004	Used Petroleum Products Area		X	NFRAP
37	SWMU 25	17000	Defensive Fire Control: Drum Storage Area	X		NFRAP
38	SWMU 27	18040	Corrosion Control (Hazardous Waste Accumulation Area, Flammable Storage Room)	X		NFRAP
39	SWMU 29A	2799	Industrial Corrosion Control – Drum Storage Area		X	NFRAP
40	SWMU 29B	2799	Industrial Corrosion Control – Hazardous Materials Storage Areas and Associated Spill Areas		X	NFRAP
41	SWMU 29C	2799	Industrial Corrosion Control – Septic System		X	Under Investigation
42	SWMU 30C	23022	Aerospace Ground Equipment: Oil/Water Separator: Includes Settling Tank		X	OWS Removed1/2 Under Investigation
43	SWMU 30D	23022	Aerospace Ground Equipment: Drum Storage Areas		X	Under Investigation

No.	Site ID	Location	Name	Permit	FFA	Status[1]
44	SWMU 31A	26229	Refueling Maintenance: Drum Storage Area	X		NFRAP
45	SWMU 31B	26229	Refueling Maintenance: Spill Site		X	NFRAP
46	SWMU 32A	26051	Auto Hobby Shop: Inside Drum Storage Area	X		NFRAP
47	SWMU 32D	26051	Auto Hobby Shop: Used Petroleum Products Storage Area	X		NFRAP
48	SWMU 32E	26051	Auto Hobby Shop: Abandoned Car Storage Area		X	NFRAP
49	SWMU 32G/F	26051	Auto Hobby Shop: Used Battery Storage Area		X	NFRAP
50	SWMU 33	26203	Fuels Laboratory		X	Clean-Up Complete1
51	SWMU 34A	26224	Liquid Oxygen (LOX) Facility: Oil/Water Separators		X	OWS Removed1/2 Clean-Up Complete1
52	SWMU 34B	26224	Liquid Oxygen (LOX) Facility: Septic Tank and Leach Field	X		NFRAP
53	SWMU 35A	18002	Bomb Renovation, Paint and Refrigeration: Inside Storage Area		X	NFRAP
54	SWMU 35C	18002	Bomb Renovation, Paint and Refrigeration: Outside Storage and Staging Area		X	Clean-Up Complete2
55	SWMU 37A	9004	Line Delivery and Handling: Vehicle Maintenance Pit		X	Clean-Up Complete1
56	SWMU 40B	20021	Roads and Grounds (and heavy equipment shops): Flammable Materials Storage Room	X		NFRAP
57	SWMU 40C	20021	Roads and Grounds (and heavy equipment shops): Equipment Washing Area – Washrack		X	Clean-Up Complets2
58	SWMU 41	17002	Fire Protection Branch		X	NFRAP
59	SWMU 42B	18001	Oil/Water Separator		X	Active OWS Under Investigation
60	SWMU 42C	18001	Battery Shop	X		NFRAP
61	SWMU 42D	18001	Hazardous Waste Satellite Accumulation Point		X	NFRAP
62	SWMU 42E	18001	Drum Storage Area		X	Clean-Up Complete1
63	SWMU 42F	18001	Vehicle Salvage Area		X	Clean-Up Complete2
64	SWMU 43	14526	Dumpster Washrack		X	Clean-Up Complete2

No.	Site ID	Location	Name	Permit	FFA	Status[1]
65	SWMU 44	18020	Hanger Oil/Water Separator		X	Active OWS Clean-Up Complete1
66	SWMU 46A	26204	POL Washrack Oil/Water Storage Area		X	Active OWS Clean-Up Complete1
67	SWMU 46B	26204	Outside Drum Storage Area		X	Clean-Up Complete1
68	SWMU 47C	NW field	Northwest Field – Power Plant: Waste Oil Storage		X	Clean-Up Complete2
69	SWMU 53B	Andy TF	Andersen 1 Tank Farm: Drum Storage Area		X	Clean-Up Complete1
70	SWMU 53C	Andy TF	Andersen 1 Tank Farm: Land Disposal Area		X	Under Investigation
71	SWMU 53D	Andy TF	Andersen 1 Tank Farm: Routine Spill Site		X	NFRAP
72	SWMU 53F	Andy TF	Andersen 2 Tank Farm: Collection Pit		X	Under Investigation
73	SWMU 56	IRP Site 01	Landfill Complex – Landfill 01	X		NFRAP
74	SWMU 57	IRP Site 33	Drum Storage Area No. 2		X	Clean-Up Complete2
75	DSA-1		Drum Storage Area No. 1		X	Active Site

Note(s)

1 Status information provided in the December 2007 Remediation Report

NFRAP – No Further Response Action Planned Decision Document for Eight Areas of Concerns and 34 Solid Waste Management Units, Andersen AFB, Guam. EA Engineering, Science, and Technology dated November 2006

IRP1 – Transferred to Installation Restoration Program for remedial design and remediation.

IRP2 – Transferred to Installation Restoration Program for further investigation.

NPDES – Transferred to the National Pollution Discharge Elimination System Program for management.

Clean-Up Complete1 – Documentation included in Final Remediation Verification Report for 13 Solid Waste Management Units at Andersen Air Force Base, Guam. EA Engineering, Science, and Technology date June 2007

Clean-Up Complete2 – Documentation included in *Final Remediation Verification Report for 9 Solid Waste Units at Andersen Air Force Base, Guam.* EA Engineering, Science, and Technology dated June 2008

OWS Removed1 – Final Closure and Decommissioning Report for 14 Oil-Water Separator Removals at Andersen Air Force Base, Guam dated March 2010.

Active OWS/OWS Removed2 – Final Oil Water Separator Management Plan, July 2011.

Appendix A

OB/OD Waste Analysis Plan

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APPENDIX A - OB/OD WASTE ANALYSIS PLAN

1.0 Purpose

Andersen Air Force Base Explosive Ordnance Disposal Flight treats munitions materials which meet the definition of hazardous waste under the United States Environmental Protection Agency and Guam Environmental Protection Agency regulatory definition. In addition, EOD Flight also detonates or burns other munitions materials which are not defined as hazardous wastes. This Waste Analysis Plan will be used to determine the treatability of the hazardous waste materials at Andersen AFB's EOD range.

This Waste Analysis Plan presents a procedurally oriented process for waste identification. A more traditional waste sampling and analysis procedure is not necessary as the waste composition is well documented for each waste to be treated. Furthermore, a more traditional sampling and analysis procedure is not feasible due to the inherent safety issues associated with waste ordnance materials.

2.0 Related Documents

2.1 Environmental Performance Standards, Appendix I

2.2 T.O. 11A-1-42 General Instructions for Emergency Destruction of Munitions (EDM) This document provides information on accident prevention, description of demolition materials and firing system procedures (not releasable).

2.3 T.O. 1lA-1-46 This document provides supplementary technical information on each type of munition, including NEW, National Stock Number, hazard classification, and compatibility group (not releasable).

2.4 EOD 60 Series T.O.'s These documents provide technical information for each type of munition regarding chemical and physical components and construction. These documents provide information on type, description of hazardous components, functioning, markings, and render safe procedures (not releasable).

2.5 Table III-1, Maximum Permissible Quantity of Metals and Sulfur that can be Treated per OB Event, Attachment 3

2.6 Table III-2, Maximum Permissible Quantity of Metals and Sulfur that can be Treated per OD Event, Attachment 4

2.7 Table III-7. Composition Data of Ordnances as Modeled for AAFB, Attachment 5

3.0 Definitions

AAFB: Andersen Air Force Base

ADR: Ammunition Disposition Requisition This is the request for the EOD Flight to dispose of munitions. This request is evaluated with respect to acceptability of waste for treatment prior to acceptance at EOD Flight.

AFK: Munitions Supply

DODIC: Department of Defense Identification Code

DOD: Department of Defense

DRMO: Defense Reutilization and Marketing Office

Energetic Material: Any explosive material, whether contained within an ordnance or separated from the ordnance during treatment.

EPS: Environmental Performance Standards, a set of operational criteria presented within the Andersen AFB EOD RCRA Part B Application. These criteria include Limits on the amounts; types; and/or item constituents which are allowable for treatment at this EOD Range.

EOD: Explosive Ordnance Disposal

EOD Flight: Group of Andersen AFB personnel tasked with munitions disposal.

EOD Range: The area used by EOD personnel to perform treatment operations, EOD mission training, and emergency operations. The EOD Range is surrounded by a safety exclusion zone to minimize risk to human life during operations.

Explosive (Explosive Ordnance): Any chemical compound, mixture, or device whose primary purpose is to function by detonation or deflagration with instantaneous release of heat and gas.

Hazardous Waste: A solid waste that exhibits any of the characteristics of hazardous waste (ignitability, corrosivity, reactivity, and toxicity) or is a listed hazardous waste under RCRA (40 CFR 261.3).

Ignition Materials: Materials used to initiate the OB treatment process. These generally consist of a radio controlled igniter with a small quantity (10-20 gallons) of virgin diesel fuel.

Metallic Fragment: Any metallic material that remains following ordnance treatment. Metallic fragment can include items remaining in the OB or OD treatment units or ejecta thrown out during treatment.

Munitions Squadron: The AAFB unit responsible for munitions related activities.

NEW: Net Explosive Weight is the mass of the explosive material within the particular munitions item.

Non-hazardous Waste: A solid waste that does not exhibit characteristics of hazardous waste.

NSN: National Stock Number, an internal DOD tracking number for each type of munitions.

Open Burning (OB): Combustion of PEP or explosive ordnance without the control of combustion air, containment of the combustion reaction in an enclosed device, or control of gaseous and particulate combustion products.

Open Detonation (OD): Unconfined, violent reaction of PEP or explosive ordnance without the control of combustion air, containment of the combustion reaction in an enclosed device, or control of emission of gaseous and particulate combustion products.

PEP: Term used to refer collectively to propellants, explosives, and pyrotechnics.

Residue: Any material remaining from OB/OD activities. Residue may include materials from non-RCRA treatment OB/OD operations (i.e. training, or emergency operations) which may also take place on the EOD Range.

T.O. Documents: DOD Technical Order documents.

4.0 Waste Analysis Procedures

The Waste Analysis Procedure is essentially a waste identification process which is comprised of the following general steps.

- General item identification
- Comparison to a pre-evaluated list
- NEW quantity determination
- Specific component chemical identification
- Determination of treatment method
- Evaluation with respect to Environmental Performance Standards

The waste analysis procedure is then followed by a decision to proceed as proposed, proceed with a modified procedure, or not proceed with treatment of waste munitions.

A graphic presentation of these steps is shown in the Environmental Performance Standards Waste Evaluation Flow Chart. As shown in the Flow Chart, if the waste munitions have not been pre-evaluated, several additional evaluation steps are required.

4.1 EOD Flight Notification

The process is initiated when EOD Flight receives notification from AAFB AFK of a desire to treat waste munitions, normally via e-mail. This notification includes operational identification information such as ADR number, lot number(s), stock number, DODIC, common name, NEW, and quantity of each item.

4.2 General Item Identification

EOD Flight researches each individual munition type listed in the ADR by using the 60-series TO that covers the munition item and/or TO 11A-1-46. The information in these documents is used to confirm the identification of each type of munition on the basis of physical description, characteristic markings, DODIC number (analogous to make and model number), and matching stock number.

4.3 Comparison to Pre-Evaluated List

Following identification of each munition, EOD determines whether each item has been pre-evaluated as acceptable for treatment by OB or OD.

The munitions items which have been pre-evaluated as acceptable for treatment at AAFB's EOD Range are listed in Table III-7, along with the treatment method (OB or OD).

4.4 Treatment of Pre-Evaluated Munitions

The following steps are followed for treatment events which include only pre-evaluated waste munitions.

4.4.1 NEW Quantity Research

EOD Flight researches the NET Explosive Weight of the explosive materials within each munition using T.O. 11A-1-46 and/or the 60 Series T.O.s.

4.4.2 Evaluation of Environmental Performance Standard Restrictions

For a treatment event composed entirely of pre-evaluated items, the only additional evaluation is comparison of the munitions and quantities slated for treatment to the limitations presented in Table EPS-19 (for Open Burning treatment events) or Table EPS-21 (for Open Detonation treatment events) as appropriate. These two Environmental Performance Standards restrict the quantity of certain specific munitions per treatment event. (Item numbers refer to those presented in Table III-7)

Table III-EPS 19
Maximum NEW per Open Burn Treatment Event
Andersen AFB EOD Range, RCRA Waste Treatment Operations

The maximum NEW for each OB event is 100 lbs, except for the following items.	
Item Nos. 10, 42,43,45, 50	Restricted to 5 lbs (total NEW)
Item Nos. 36, 37, 38, 39, 40, 51	Restricted to 10 lbs (total NEW)
Item No. 4	Restricted to 50 lbs (total NEW)

(reference: EPS 19)

Table III-EPS 21
Maximum NEW per Open Detonation Treatment Event
Andersen AFB EOD Range, RCRA Waste Treatment Operations

The maximum NEW for each OD event is 600 lbs, except for the following items.		
Total NEW (lbs) For OD Event	Maximum Munition Item NEW (lbs)	
	No. 95	No. 14,15,
1	0.26	1.0
5	0.54	2.7
20	0.64	3.2
50	1.4	7.0
100	2.1	10
200	3.5	17
300	5.0	25
400	6.7	33
500	8.3	42
600	10.0	50

(reference: EPS 21)

4.4.3 Treatment

Providing all munitions are listed in Table III-7, the proposed treatment event proceeds as proposed or is modified, if required, as per the restrictions imposed by Environmental Performance Standards #7, #19 and/or #21.

4.5 Treatment Events Including Waste Munitions Not Pre-evaluated

For munitions not listed as pre-evaluated, additional evaluation must be accomplished as follows for all munitions in the proposed treatment event.

EOD Flight researches the specific chemical components which makeup the explosive materials within each munition using the 60 Series EOD T.O.'s. Data gathered from the appropriate T.O. includes both chemical constituents and quantity of each constituent.

4.5.1 Treatment Events including Munitions Not Pre-evaluated Without Compounds of Concern

If the research of the munitions which were not pre-evaluated reveal no compounds of concern (metals and sulfur), the NEW of the munitions is totaled, and the proposed treatment event may proceed with only those restrictions imposed by EPS #7, #19 and/or #21.

4.5.2 Treatment Events including Munitions not Pre-evaluated with Compounds of Concern

If the research of the munitions which were not pre-evaluated reveals they contain compounds of concern (metal and sulfur compounds), these compounds must then be evaluated for all munitions in the proposed treatment event.

The totals for each of the chemical components of concern are compared to the maximum permissible quantity of metals and sulfur per treatment event as specified in Table III-1 (for OB treatment) or Table III-2 (for OD treatment).

Following this evaluation, the proposed treatment event may proceed under the restrictions imposed by Table III-1 (for OB treatment) or Table III-2 (for OD treatment), or by EPS #7. #19 and/or #21 whichever is more restrictive.

5.0 Documentation

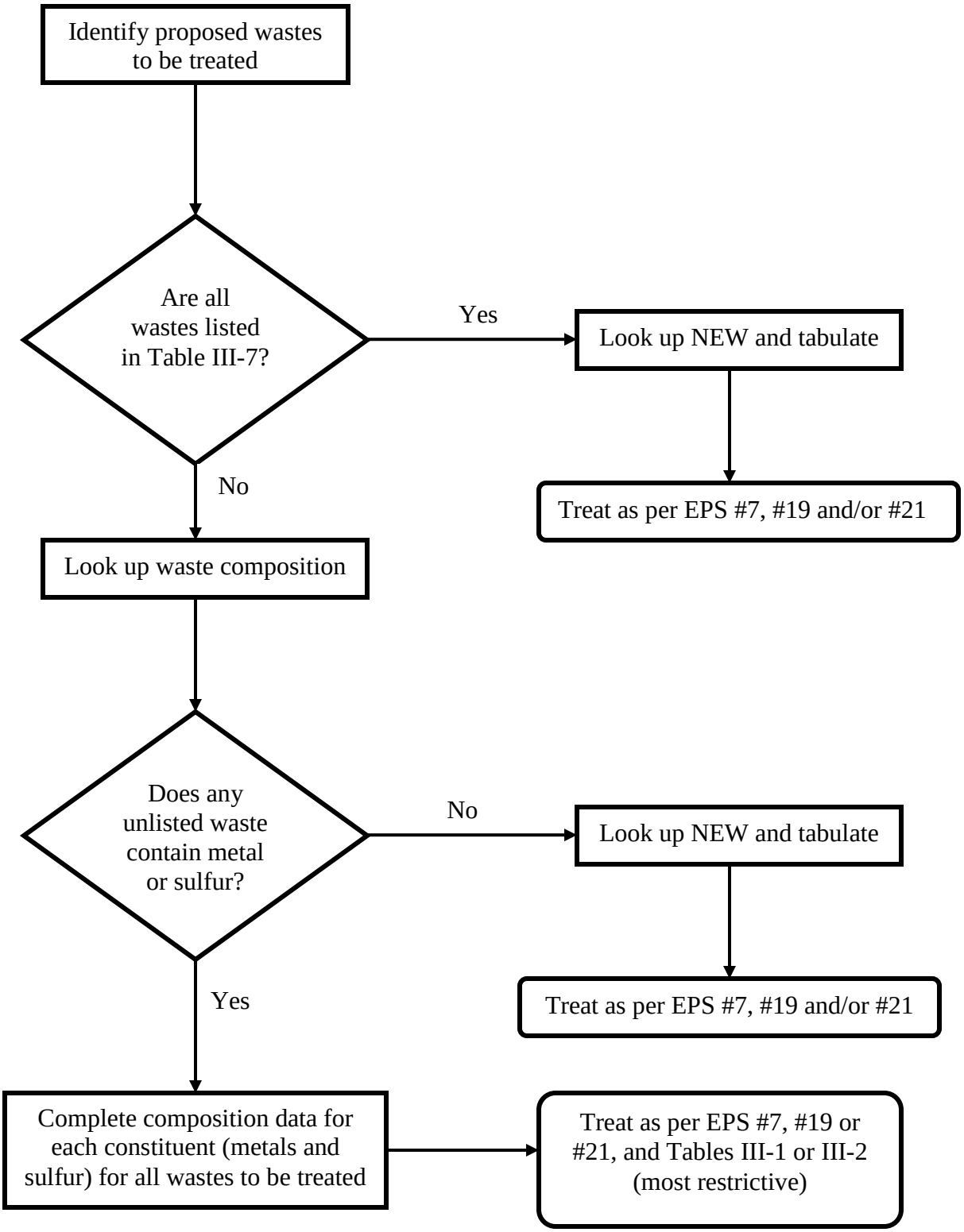
The procedures completed for evaluating the acceptability of the proposed waste munitions for treatment by either OB or OD are documented using the Waste Munitions Analysis Checklist (see Attachment 5).

Attachment 1

Environmental Performance Standards

Waste Evaluation Flow Chart

Environmental Performance Standards
Waste Evaluation Flow Chart



Attachment 2

Table III-1 Maximum Permissible Quantity of Metals and Sulfur that can be Treated per OB Event, AAFB EOD RCRA Part B Application

TABLE III – 1
Maximum Permissible Quantity of Metals and Sulfur that can be Treated per OB Event
Andersen AFB EOD Range, RCRA Waste Treatment Operations

Constituent	Quantity per Event (lbs)
Aluminum Cpds, as Al	25.30
Antimony Cpds, as Sb	2.50
Barium Cpds, as Ba	0.51
Calcium Cpds, as Ca	0.34
Copper Cpds, as Cu*	0.00
Iron Cpds, as Fe	84.80
Lead Cpds, as Pb	2.72
Magnesium Cpds, as Mg	57.20
Potassium Cpds, as K	45.90
Silver Cpds, as Ag	1.02
Sodium Cpds, as Na	35.10
Strontium Cpds, as Sr	4.09
Sulfur Cpds, as S	0.63
Tin Cpds, as Sn	0.07
Uranium Cpds, as U	1.11
Zinc Cpds, as Zn	19.00

*Copper compounds not evaluated.
Historically no copper compound containing items have been treated by OB.

Attachment 3

Table III-2 Maximum Permissible Quantity of Metals and Sulfur that can be Treated per OD Event, AAFB EOD RCRA Part B Application

TABLE III – 2
Maximum Permissible Quantity of Metals and Sulfur that can be Treated per OD Event
Andersen AFB EOD Range, RCRA Waste Treatment Operations

Maximum Quantity per Event (lbs)								
Constituent	Total Event NEW 1 lb	Total Event NEW 5 lb	Total Event NEW 20 lb	Total Event NEW 50 lb	Total Event NEW 100 lb	Total Event NEW 200 lb	Total Event NEW 400 lb	Total Event NEW 600
Aluminum Cpds, as Al	4.03	8.36	13.98	21.62	32.43	54.04	101.33	152.00
Antimony Cpds, as Sb*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barium Cpds, as Ba	0.07	0.14	0.23	0.36	0.54	0.89	1.67	2.51
Calcium Cpds, as Ca	0.20	0.42	0.71	1.10	1.64	2.74	6.13	7.70
Copper Cpds, as Cu	0.01	0.01	0.02	0.03	0.05	0.08	0.15	0.22
Iron Cpds, as Fe	8.32	17.26	28.87	44.66	66.99	111.64	209.33	314.00
Lead Cpds, as Pb	0.47	0.98	1.64	2.53	3.80	6.33	11.87	17.80
Magnesium Cpds, as Mg	8.47	18.14	30.34	46.93	70.40	117.33	220.00	330.00
Potassium Cpds, as K	0.36	0.75	1.25	1.93	2.90	4.84	9.07	13.60
Silver Cpds, as Ag*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sodium Cpds, as Na	5.59	11.60	19.40	30.01	45.01	75.02	140.67	211.00
Strontium Cpds, as Sr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfur Cpds, as S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tin Cpds, as Sn*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uranium Cpds, as U*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zinc Cpds, as Zn	3.02	6.27	10.48	16.21	24.32	40.53	76.00	114.00

* Noted compounds not evaluated
Historically, no items containing these compounds have been treated by OD

Attachment 4

Table III-7 Ordnances Pre-Evaluated

Andersen AFB EOD RCRA Treatment Operations

Table III-7
Ordnances Pre-Evaluated
Andersen AFB EOD RCRA Treatment Operations
(Page 1 of 3)

Ordnance #	Name	OB	OD
1	Cartridge, 5.56 mm Ball	X	X
2	Cartridge, 5.56 mm Ball/tracer	X	X
3	Cartridge, 5.56 mm Blank	X	X
4	Cartridge, 7.62 mm Blank	X	X
5	Cartridge, 7.62 Ball	X	X
6	Cartridge, 9 mm Para	X	X
7	Cartridge, 12 gauge	X	X
8	Cartridge, .30-06	X	X
9	Cartridge, .357 Magnum	X	X
10	Cartridge, 20 mm HEI		X
11	Cartridge, 40 mm	X	X
12	M58A3 40mm		X
13	Simulator, Booby Trap	X	X
14	Cap, Electric blasting		X
15	Cap, Non-electric blasting		X
16	Cord, detonating		X
17	FLSC 100 to 600 GPF		X
18	Fuse, time	X	X
19	Igniter, M60	X	X
20	Charge, demolition, M112 (C4)		X
21	Charge, demolition, TNT		X
22	Charge, assembly, demolition		X
23	Demolition kit, Bangalore torpedo, M1A1		X
24	Charge, demolition block, M118		X
25	Charge, demolition roll		X
26	Deta Sheet		X
27	Charge, demolition, shaped 15lb		X
28	Charge, demolition, shaped 40lb		X
29	Cratering charge M180		X
30	Demolition kit, projected charge, M1		X
31	Dynamite, military, M1		X
32	Water Gel Explosive		X
33	Single-base smokeless powder	X	X
34	Black powder	X	X
35	Fireworks, seal	X	X
36	Firing device, M1	X	X
37	Firing device, demolition, M1A1	X	X
38	Firing device, demolition, M5	X	X
39	Firing device, demolition, M3	X	X
40	Firing device, demolition, M1	X	X

Table III-7
Ordnances Pre-Evaluated
Andersen AFB EOD RCRA Treatment Operations
(Page 2 of 3)

Ordnance #	Name	OB	OD
41	Cartridge, Fire Extinguisher	X	X
42	Detonator, percussion, M2A1	X	X
43	Detonator, percussion, M1A2	X	X
44	Cutter, line M21	X	X
45	Detonator kit, M1		X
46	Cartridge, impulse	X	X
47	Cartridge set, impulse	X	X
48	Cartridge, initiator	X	X
49	Cartridge, actuator	X	X
50	Primer, percussion, cap	X	X
51	Firing device, demolition, M142	X	X
52	Simulator, ground, M115/M116	X	X
53	Smoke Pot		X
54	Squib, Fire Extinguisher	X	X
55	Squib, M1	X	X
56	Signal, Smoke/illuminating	X	X
57	Kit, Aot Deploy	X	X
58	2 Bomblet		X
59	M74 Bomblet		X
60	AN/M50		X
61	Bomb, MK 82		X
62	Bomb,M117		X
63	Fuze, Type 93		X
64	Fuze, FMU 113/B		X
65	Fuze, FMU 54A/B		X
66	Fuze, MK 28		X
67	Fuze, MK18		X
68	Fuze, M905		X
69	Booster, M147/M148		X
70	Mortar, M49A2		X
71	Mortar, Type 97		X
72	Projectile, 5 inch		X
73	Projectile, high explosive		X
74	Projectile, MK28		X
75	Projectile, MK34		X
76	Projectile, MK35		X
77	Projectile, MK44		X
78	Projectile, MK45		X

Table III-7
Ordnances Pre-Evaluated
Andersen AFB EOD RCRA Treatment Operations
(Page 3 of 3)

Ordnance #	Name	OB	OD
79	Projectile, MK165, 76 mm		X
80	Projectile, White Phosphorus		X
81	Rocket, LAW		X
82	Rocket, LAW-35mm subcaliber	X	X
83	Mine, antipersonnel, M16		X
84	Mine, antipersonnel, M14		X
85	Mine, antipersonnel, M26		X
86	Mine, antitank, M15		X
87	Mine, antitank, M19		X
88	Mine, Claymore, M18		X
89	Flare, MK25		X
90	Flare, AN-M 26		X
91	Flare, MK124	X	X
92	Flare, Personal distress	X	X
93	Flare, ALA17/B	X	X
94	MK 24 Cluster		X
95	Grenade, MK1, Illuminating		X
96	Grenade, M14	X	X
97	Grenade, MK-2		X
98	Grenade, Smoke, M18	X	X
99	Grenade, Type 97		X
100	Grenade, Type 99		X
101	Grenade, fragmentation		X
102	Grenade, offensive, MK3A2		X
103	Weapons, Confiscated		X
104	Ethylene Oxide	X	X

Attachment 5

Waste Munitions Analysis Checklist

Date of Request for Disposition of Waste Munitions: _____
Proposed date of Waste Munitions Treatment Event: _____

1. Complete Proposed Waste Treatment Event Munitions Evaluation Form 1.

Form 1. Proposed Waste Treatment Event Munitions Evaluation

Item	Table III-7 Item #	Quantity	Individual Item NEW	Total NEW	Contaminants of Concern?
Munitions Pre-Evaluated					
Munitions Not Pre-Evaluated					
	n/a				
	n/a				
	n/a				
			Total NEW		

2. Are all proposed wastes pre-evaluated?

a. YES _____ …. continue to STEP 3 ….

b. NO _____ …. go to STEP 8 ….

3. Total NEW for proposed event ____

4. Verify acceptability with EPS #7. ____

5. Verify acceptability with EPS #19 (Open Burn Treatment). ____

5a. 5 lb NEW restriction (Item Nos. 27, 28, 99, 100, 102, 111) ____

5b. 10 lb NEW restriction (Item Nos. 3, 104, 105, 106, 107, 108, 109, 113) ____

5c. 50 lb NEW restriction (Item No. 4) ____

6. Verify acceptability with EPS #21 (Open Detonation Treatment) ____

6a. Any Item # 30 ____

6b. Any Items # 12, 13, and/or 95 ____

7. Proceed with Treatment Event

8. Does research indicate any contaminants of concern (metals and sulfur) contained within waste munitions not pre-evaluated??

a. YES ____ .... continue to STEP 9 ....

b. NO ____ .... return to STEP 2 and complete evaluation ....

9. Complete FORM 2 detailing quantities of contaminants of concern.

10. Do any quantities of contaminants of concern exceed limits presented in Table III-2?

a. YES ____ …. revise proposed waste munitions treatment and repeat STEP ….

b. NO ____ …. return to STEP 2 and complete evaluation ….

APPENDIX A - OB/OD WASTE ANALYSIS PLAN
Form 2
Determination of Quantity of Metals and Sulfur for Proposed Event
Andersen AFB EOD Range, RCRA Waste Treatment Operations

	Item:		Item:		Item:		Item:		
	No. of Items:		No. of Items:		No. of Items:		No. of Items:		
Contaminant of Concern	Amount per Item	Total for Items	Amount per Item	Total for Items	Amount per Item	Total for Items	Amount per Item	Total for Items	All Items
Aluminum Cpds, as Al									
Antimony Cpds, as Sb									
Barium Cpds, as Ba									
Calcium Cpds, as Ca									
Copper Cpds, as Cu									
Iron Cpds, as Fe									

Proposed Treatment Event Date: _____

APPENDIX A - OB/OD WASTE ANALYSIS PLAN

Contaminant of Concern

Lead Cpds, as Pb

Magnesium Cpds, as Mg

Potassium Cpds, as K

Silver Cpds, as Ag

Sodium Cpds as Na

Strontium Cpds, as Sr

Sulfur Cpds, as S

Tin Cpds, as Sn

Uranium Cpds, as U

Zinc Cpds, as Zn

Proposed Treatment Event Date: _____

Appendix B

Security Procedures and Equipment

APPENDIX B - SECURITY PROCEDURES AND EQUIPMENT

1. Procedures To Prevent Hazards

Security Procedures and Equipment (Parts X.A. and VI.A. [Adopts by reference 40 CFR 270.l4(b)(4) and 40 CFR 264.14] of the GHWMRs)

Demonstration That Unknown or Unauthorized Contact with Waste Is Not Harmful (Part VI.A. [Adopts by reference 40 CFR 264.14(a)(1)] of the GHWMRs)

Unauthorized contact with the waste treated at the OB/OD cannot happen, as the wastes are only on-site during attended operations. Therefore, this section is not applicable.

Demonstration That Disturbance of Waste or Equipment Will Not Cause Violation of 40 CFR 264 (Part VI.A. [Adopts by reference 40 CFR 264.14(a)(2)] of the GHWMRs)

Unauthorized contact with the waste treated at the OB/OD cannot happen, as the wastes are only on-site during attended operations. Therefore, this section is not applicable.

Description of a 24-hour Surveillance System (Part VI.A. [Adopts by reference 40 CFR 264.14(b)(1)] of the GHWMRs)

There are varying degrees of security requirements and procedures at Andersen AFB to control access to the main base as well as to restricted areas. Each entry has certain restrictions that must be observed by all personnel. Base employees are issued identification cards and are required to show the cards to gain access to the base. Visitors to the base, including guests of military personnel and Government of Guam agency representatives, must be sponsored onto the base.

The main base may be entered at two locations: the front (main) entrance and the rear entrance. The main entrance is on Marine Corps Drive and a 24-hour-a-day manned guardhouse, fence, and gates control access. The rear entrance is on Santa Rosa Boulevard and consists of a guardhouse, fence, and gates that currently provide access 12 hours per day.

Security at Andersen AFB is maintained by the 36th Wing, 36th Security Forces Squadron. In addition to manning the guardhouses, the police squadron provides a 24-hour, 7-day per week roving patrol service throughout the base.

Entry into the flight line and restricted areas, such as the EOD Range, by unauthorized base and off-base personnel is prohibited. Escorts and log-in requirements are imposed upon entry to restricted areas. These areas are either completely fenced in or bounded by a natural barrier such as a cliff or forest. Vehicular access to the EOD Range is denied by two sequential gates on the only access road.

Description of the Artificial or Natural Barrier (Part VI.A. [Adopts by reference 40 CFR 264.14(b)(2)(i)] of the GHWMRs)

In addition to the security provisions of fencing, gates, and guards several natural features contribute to the safety and security of the EOD Range. Access to the EOD Range is controlled through the use of both natural and artificial barriers. It is bounded to the north by the Pacific

Ocean, by the flight line cliff on the south and east, and by two separately locked gates on the access road to the west.

As discussed above, the only vehicular access route is by the only access road, which has two sequential locked gates. Non-vehicular access is denied from three of four compass directions by natural barriers.

The EOD Range is bordered to the north by the Pacific Ocean. This area of the island of Guam is encircled by a continuous reef line approximately 200 feet off shore. One cannot bring a boat to shore in this area. Likewise, a swimmer would sustain serious injury attempting to cross the reef.

The EOD Range is bordered to the south and east by a dense jungle in arid etched karst limestone bedrock in an area of tremendous topographic relief. The ground surface elevation south of the range rises some 500 feet in less than 1/2 mile. These two barriers should prevent any person from accessing the EOD Range.

The EOD Range is bordered to the west by the same dense jungle growth. Line of sight distances in this dense jungle growth average less than 50 feet. Only two clear paths are available from the west. The first is the access road, which has security structures as previously discussed. The second potential line of access is the beach itself, which is approximately 100 feet wide at the east end of Tarague Beach. Wave action and typhoon conditions on the beach have made it extremely difficult to maintain any barriers to physically prevent entry from the west along the beach. Unknowing entry is prevented through warning signs maintained at the Pati Point Recreation Area approach.

In addition to the above discussion of the natural barriers to all four cardinal compass headings, one must also bear in mind that the EOD Range is totally enclosed on three of four sides by Andersen AFB. The nearest public or private property is several miles off base.

Method to Control Entry and Number of Personnel in the Treatment Area (Part VI.A. [Adopts by reference 40 CFR 264.14(b)(2)(ii)] of the GHWMRs)

In addition to the warning signs and locked gates to prevent unauthorized entry, red warning flags are flown during EOD operations. The red flags are flown at two locations: the gate at the small arms range on Tarague Well Road and on the beach near the personnel bunker at the EOD treatment area.

Sign Posted at Each Entrance with Legend "Danger -Unauthorized Personnel Keep Out" (Part VI.A. [Adopts by reference 40 CFR 264.14(c)] of the GHWMRs)

Warning signs are posted along both accessible and inaccessible boundaries of the EOD Range to provide would-be trespassers ample notice that the site is a restricted area. All signs are written in English and Chamorro and are legible from at least 25 feet away. Warning signs that read "Danger, Explosive Disposal Range Keep Out" are posted along the cliff top above the EOD Range. The warning signs at the Pati Point Recreation Area approach to the west consist of

the following legend: "Danger, Small Arms Range, DOD Ammunition Dud Area, Off Limits To All Personnel." Prior to any operation of the EOD Range, the beach area is inspected to eliminate the possibility of unauthorized entry. Warning signs are also posted at both locked gates on the access roads and on the beach at the treatment area within the EOD Range. The signs state: "Danger, Explosive Disposal Range, Keep Out."

To reinforce that the EOD Range is a restricted area, 40 warning signs with a legend in both English and Chamorro will be distributed around the perimeter of the EOD Range. These signs will be legible from a distance of 25 feet. The legend consists of "DANGER" in white 4-inch capital letters on a red and black background. Beneath the word "Danger," in 4-inch black lettering, is "EXPLOSIVE DISPOSAL RANGE KEEP OUT" on a white background. Beneath the warning written in English is a corresponding warning written in the local language of Chamorro.

Appendix C

Inspection Schedule

APPENDIX C - INSPECTION SCHEDULE

1. Inspection Schedule

Copy of Inspection Schedule (Parts X.A. and VI.A [Adopts by reference 40 CFR 270.14 and 264.15] of the GHWMRs)

Operation of the EOD Range is in accordance with standard operating procedures (SOPs) in place at Andersen AFB. 36th Wing Instruction (36WI 32-3001) provides procedures for the safe operation of the EOD Range. These operating procedures direct EOD personnel to inspect the range before and after operations as well as after any typhoons/storms. 36WI 32-3001 details information on EOD procedures, personnel safety and responsibilities, and checklists on safety inspections and range/demolition.

Types of Problems to Be Checked (Part VI.A. [Adopts by reference 40 CFR 264.15] of the GHWMRs)

Inspection of the EOD Range occurs both before and after conducting any operations at the site. These are the most critical times for inspections to correct deficiencies, which may interfere with the safe progress of the treatment process and threaten human health and the environment. The purpose of these inspections is to detect any unexploded ordnance (UXO), metal fragments, and/or other discharges that could affect human health or the environment. The pre-operation inspection includes checking for any unauthorized personnel on the beach prior to accepting delivery of the munitions to the range. Additional pre-operations checklists examine the integrity of security devices and emergency response equipment. A copy of the inspection checklists may be found in the EOD Operating Procedures Appendix.

Frequency of Inspections of Equipment and Process (Part VI.A. [Adopts by reference 40 CFR 264.15(b)(4)] of the GHWMRs)

Inspections of the OB kettle occur before and after operations, as well as after any typhoons/storms. As previously stated, there is no other equipment to inspect.

Inspection Record Keeping (Part VI.A. [Adopts by reference 40 CFR 264.15] of the GHWMRs)

Records of inspections and the inspection schedule are documented in the EOD Incident Management System (EODIMS) report. (EODIMS is an online database that far exceeds 3 year requirement)

Schedule of Remedial Action (Part VI.A. [Adopts by reference 40 CFR 264.15] of the GHWMRs)

During EOD Range inspections, any deterioration/malfunction of equipment will be noted and the problem alleviated prior to commencing operations. Repair/replacement of the burn kettle are the only approved actions.

Daily Inspection for Leaks, Spills, and Fugitive Emissions, and All Emergency Shutdown Controls and System Alarms (Part VII.A. [Adopts by reference 40 CFR 265.377] of the GHWMRs)

No stacks, emission control devices, or associated equipment are present on the EOD Range treatment site. The site consists of an isolated open area composed primarily of beach sand and coral. Prior to commencing operations on the EOD Range, the inspection procedures outlined in 36WI 32-3001 are completed. Deficiencies are noted and corrected prior to commencing operations.

2. Preparedness and Prevention (Parts X.A. and VI.A. [Adopts by reference 40 CFR 270.14 and 40 CFR 264(Subpart G)] of the GHWMRs)

The intent of the preparedness and prevention measures taken by Andersen AFB is to minimize the possibility of a fire, accidental explosion, or any unplanned sudden or non-sudden releases of hazardous waste (HW) or hazardous constituents, which could threaten human health or the environment.

Description and Location of Internal Communications and Alarm System to Instruct Facility Personnel (Part VI.A. [Adopts by reference 40 CFR 264.32(a)] of the GHWMRs)

Operating personnel on the EOD Range maintain visual contact. Communication is by voice or handheld radios.

Appendix D

Personnel Training

APPENDIX D – PERSONNEL TRAINING

Personnel Training

Outline of Both the Introductory and Continuing Training Programs (Part X.A. [Adopts by reference 40 CFR 270.14(b)(12)] of the GHWMRs) and Training Content, Frequency, and Techniques

All EOD personnel go through extensive training, introductory through advanced levels, through schools at Naval School Explosive Ordnance Disposal, Eglin AFB, FL (NAVSCOLEOD, and continue with on-the-job practical training, textbook training, and off-site training courses. EOD training is constantly being updated and revised to keep up with improved techniques and new technology. Therefore, the training outline and specific courses discussed here are subject to change throughout the active life of the unit. However, these revisions will not cause reduction but will enhance the overall quality and excellence of the current EOD training requirements.

Preliminary Training Program

EOD students must first graduate from Air Force basic training prior to enrolling in the EOD program. Many new students in the EOD program have transferred from another Air Force duty and are continuing in EOD for cross training. EOD students start out with preliminary training course four weeks in length, which introduces EOD work. If students pass the preliminary course, they then proceed to NAVSCOLEOD.

EOD Basic Training Programs

Explosive Ordnance Disposal Basic Training course is located at NAVSCOLEOD, Eglin AFB, Florida. This intensive basic training program takes approximately eight to twelve months to complete. It incorporates classroom and practical hands-on training. Each phase of the training covers the following subject areas; however, there is overlap in some subject areas.

- Researching Explosive Data
- Tool Sets and Techniques for Remote Procedures
- Demolition Procedures
- Chemical Ordnance Decontamination and Disposal
- Explosive Effects and Properties
- Comprehension of Demolition Materials
- Comprehension of Firing Techniques
- Operation of .50 Caliber Dearmer, U.S. Tool Set & Remote Wrench
- Comprehension of Shaped and Special Charges
- Special Explosive Techniques
- Disposal Procedures for Conventional Explosives and Related Hazardous Materials
- Nuclear Ordnance Identification
- Conventional Ordnance Identification and Function
- Conventional Ordnance Safe Rendering and Disposal

APPENDIX D – PERSONNEL TRAINING

Upon successfully completing NAVSCOLEOD, EOD Apprentices are assigned to an EOD unit at specific bases such as Andersen AFB. The duties and responsibilities of an EOD Apprentice are described in the Skill Level Summary, in the Training Plan Appendix.

EOD Advanced and Continuing Training Programs

The level of activity and responsibility for EOD Apprentice is continuously increased as they become proficient in EOD operations. Students become certified in various techniques by conducting them with a certified experienced EOD supervisor. EOD personnel are required to complete extensive practical and textbook training. Training is conducted approximately three days per week during the duty day. Practical EOD training is conducted three to nine times a month. During practical training, EOD flight members are trained and evaluated by supervisors.

There are several training programs that are completed concurrently by EOD personnel. Training is a continuous process, and each individual must advance in training level in accordance with specified time limits in order to remain in the EOD unit. Individual Apprentices are constantly reviewing previously learned techniques in order to retain their proficiency.

There are four levels of training and proficiency (skill levels). A member of an EOD unit starts as an EOD Apprentice (as mentioned above). The second level of proficiency is an EOD Journeyman. The third level is an EOD Craftsman. The highest level of training and proficiency is an EOD Superintendent. Many training programs have specific time limits to complete in order to maintain EOD status.

A Description of How Training Will Be Designed to Meet Actual Job Tasks (Part X.A. [Adopts by reference 40 CFR 270.16(a),(b),(c)] of the GHWMRs)

Training records are maintained for each individual. The required training programs are discussed below.

Air Force Institute for Advanced Distributed Learning, Air University (Course # 3E851). This 12-month course, referred to as the Career Development Course (CDC), includes extensive reading requirements followed by testing to graduate. This course requires EOD members to increase their level of knowledge pertaining to overall EOD operations. Graduation from this course moves EOD members up one level on the training scale within the individual's skill level. EOD personnel must complete this course within one year in order to remain in EOD.

Department of Air Force, EOD Training (Course # STS 3E8X1). The purpose of this training program is to train airmen to perform duties in the Explosive Ordnance Disposal ladder of the Civil Engineer career field. As EOD personnel perform the on-the-job training, they qualify under Job Qualification Standards. The purpose of the EOD Qualification is to train EOD members on specific explosive techniques and overall EOD functions. EOD must be "qualified" prior to handling a certain type of ordnance. All training under the Specialty Training Standard (STS) is recorded on Air Force Training Record (AFTR) computer based training records. EOD personnel must likewise study and pass Promotion Tests to advance to higher ranks/enlisted grades.

APPENDIX D – PERSONNEL TRAINING

This training continues throughout the career of an EOD member. Proficiency in training items is reviewed annually by the supervisor to determine whether level of knowledge and proficiency has been maintained. If not, STS training will have to be recertified. The general areas of this training include:

- Security
- Air Force Occupational Safety and Health
- Explosive Ordnance Disposal
- Electricity
- Tools and Equipment
- Explosives and Propellants
- Destruction of Explosives and Related Hazardous Materials
- Explosive Ordnance Reconnaissance
- Protection of Personnel and Property
- U.S. and Foreign Dropped and Projected Munitions, Missiles, and Pyrotechnics
- Underwater Ordnance

Pacific Air Forces (PACAF) Job Qualifications Standards (JQSs). This course work is sent to Andersen AFB from PACAF and/or established by the Andersen EOD Flight Chief. It makes up the requirements for Initial Qualification Evaluation (IQE), certification, and additional duty position requirements needed to support EOD agencies. It includes both practical and textbook training requirements. PACAF training continues throughout the careers of EOD personnel at Andersen AFB and other Air Force bases within PACAF. EOD personnel must meet JQSs each year.

Flight Operating Instructions. Flight Operating Instructions (FOIs) are written at the Flight level, and Instructions are written at the Base or Command level for EOD personnel for specific operations at Andersen AFB. The FOIs must go through the base chain of command for coordination and approval before they become official operating documents.

The PACAF training checklists include reading and understanding FOIs that are applicable to EOD operations. All EOD personnel must be certified for each applicable Andersen AFB FOI; they cover the following areas (FOI #, date):

- 32-3002 EOD Standby and Response Procedures (Apr 2008)

- 36WG32-3001 EOD Demolition Range and Munitions Residue Inspection Procedures (May 2009)

- 32-3003 EOD Transportation of Explosives (Apr 2008)

- 32-3004 Use of EOD Explosive Actuated Tool Kits and Techniques Off-Range (Apr 2008)

- 32-3008 EOD Procedures for the Andros MK VIA Robotic System (May 2008)

- 32-3009 Employment of Commander 10,000 Tychem Level A Protective Suit (Apr 2008)

- 32-3005 EOD Flight Respiratory Protection Program (Apr 2010)

Refresher and Advanced Off-site Training. Every 72 months, all EOD personnel are required to attend the following courses for the continuing education of EOD personnel:

- Joint EOD Advanced Nuclear Training, Sandia Laboratory, Kirtland AFB, NM

  Advanced IED Device Disablement, Eglin AFB, FL

Training in Hazardous Waste Management

In addition to highly technical EOD training for the disposal of ordnance, EOD personnel attend Hazardous Waste Operations and Emergency Response (HAZWOPER)/Hazardous Materials Technician Training course and regulatory requirements under RCRA.

Industrial Hygiene Professionals, Inc. provides the aforementioned training in hazardous waste management. This training provides compliance with 40 CFR 264.16, TSDF Standards. EOD personnel must complete this course within six months of assignment, and may not work with hazardous waste in an unsupervised capacity until they have completed the training. This training is updated annually.

The following subject areas are covered during the training:

- Introduction

- Liabilities

- Responsibility

- Identification of Hazardous Waste

- Management of Hazardous Waste (accumulation point management)

- Spill Prevention and Response to Emergencies

- Contingency Planning and Emergency Response

- Hazardous Waste Turn-in Procedure

- Container Labeling/Management

- Waste Minimization

- Personnel Safety

- Exam

Training for Emergency Response (Part X.A. [Adopts by reference 40 CFR 264.16(a)(3)] of the GHWMRs)

EOD personnel are trained in emergency response by several training mechanisms. The PACAF JQS training and Department of the Air Force training (#STS 3E8X1) cover the Instructions and documents listed below. These documents include Air Force Instructions (AFI) and Air Force Technical Orders (AFTO). Several of these items, which are specific to EOD operations, are described in detail in the Training Plan Appendix.

- AFMAN 91-201: Explosive Safety Standards
- AFTO 11A-1-42, General Instructions for Disposal of Conventional Munitions
- AFTO 11A-1-46, Fire Fighting Guidance
- AFTO 60A-1-1-31, General Information on EOD Disposal Procedures
- AFI 31-101, Volume I, Physical Security Program
- EOD personnel are required to read and understand the 36th Wing Comprehensive Emergency Management Plan (CEMP) 10-2.

All EOD personnel will be required to become familiar with the Contingency Plan of this RCRA Part B Permit Application for the EOD OB/OD operations. (Appendix F)

Occupational Safety and Health requirements, including personal protective equipment, emergency shower and eyewash unit, chemical safety, and hazard communication, are taught through the advanced and continuing training programs and technical areas. Safety requirements unique to specific equipment are taught in conjunction with the operational training for that equipment. For example, EOD personnel are trained in safety requirements for electric power tools, specialized explosive tools, and explosives. Hazardous noise and fire protection briefings are conducted annually.

Maintenance of Training Records/Copy of Personnel Training Document (Parts VI.A. and X.A. [Adopts by reference 40 CFR 264.16(d)(e) and 270.14(b)(12)] of the GHWMRs)

Training content, frequency, and techniques. All EOD personnel will maintain their electronic training records in AFTR. Formal EOD training is recorded as well as all on-the-job training and testing. Personnel EOD training records will be transferred via the Unit Training Manager when they are transferred to another duty station.

All required training records for the hazardous waste management course would be kept until closure of the facility by 36th Civil Engineer Squadron, Environmental Flight (36 CES/CEV) staff. EOD personnel are generally stationed at Andersen AFB for a period of two years. Therefore,

there will be several changes of personnel through the operating period. It is unlikely that many (if any) current employees of Andersen AFB EOD will be employed at the time of closure.

Training records for the hazardous waste management course will be maintained by 36 CES/CED for three years after Permanent Change of Station (PCS). To ensure compliance with this requirement, 36 CES/CED will provide copies of the hazardous waste management training record to 36 CES/CEV HW Manager.

EOD personnel will attend annual Hazardous Waste Operations and Emergency Response (HAZWOPER) refresher training. 36 CES/CEV will assist EOD personnel with obtaining annual refresher training in hazardous waste management. In the future, the responsibility for annual refresher training may be taken on by the appropriate EOD supervisors. EOD supervisors may then receive training assistance from 36 CES/CEV. Supervisors would then maintain records of refresher training for all personnel until three years after PCS. To meet this requirement, supervisors would annotate all hazardous waste training on the individual's AF Form 55. Upon PCS of an individual, supervisors would forward a copy of his or her AF Form 55 to 36 MED GP/SGOAB (Bio-Environmental Engineering).

Director of the Training Program: Experience and Training in Hazardous Waste Management Procedures (Part VI.A. [Adopts by reference 40 CFR 264.16(a)(2)] of the GHWMRs)

Position. The EOD person holding this position will generally meet the job description/skill level of Explosive Ordnance Disposal Superintendent.

Job Titles and Job Descriptions of All Employees Involved in OB/OD Operations

The senior ranking EOD member will be the Range Safety Officer (RSO), responsible for all operations conducted on the range. The Team Chief will be identified prior to operations, and is responsible for running the operation and directing other team members on the range. All others will be team members and follow the direction of the RSO and Team Chief.

Other positions that track and evaluate training for OB/OD operations are:

The Training Monitor is responsible for scheduling the monthly training sessions for all EOD personnel and any additional training that Andersen EOD require, to include HAZWOPER. The Training Monitor ensures all required training is completed by the Andersen AFB EOD flight. He accomplishes this by tracking the training in a computer database.

The Quality Assurance function reviews the training records to ensure the Training Monitor is properly performing his/her job correctly and that all required training has been conducted in accordance with acceptable guidelines.

Appendix E

Prevention of Ignition or Reaction

APPENDIX E – PREVENTION OF IGNITION OR REACTION

The EOD operations are manually prepared and initiated and do not require electrical equipment that would be affected by power outages.

Personnel Protection Procedures (Part X.A. [Adopts by reference 40 CFR 270.14] of the GHWMRs)

The handling of HW for OB/OD operations is conducted in a manner that minimizes contact of involved personnel with the waste. Requirements for personnel protection are in accordance with applicable AFOSH SOPs.

Hearing protection devices (ear plugs, earmuffs) are available for use. Half-face respirators with appropriate cartridges are also provided for use, as necessary. Likewise, gloves and safety glasses are used, where appropriate.

Procedures to Minimize Releases to the Atmosphere (Part X.A. [Adopts by reference 40 CFR 270.14] of the GHWMRs)

The nature of OB/OD HW treatment on the EOD Range does not provide for procedures to minimize releases to the atmosphere. Appendix G provides information on the atmospheric, meteorological, and topographic characteristics of the unit.

Prevention of Accidental Ignition or Reaction of Wastes (Parts VI.A. and X.A. [Adopts by reference 40 CFR 264.7 and 40 CFR 270.14] of the GHWMRs)

Description of Procedures to Prevent Accidental Ignition or Reaction of Wastes (Part VI.A. [Adopts by reference 40 CFR 264.17] of the GHWMRs)

Movement in a military vehicle of minimum quantities of explosive items necessary for demolition operations, to include proficiency training is permitted. Blasting caps, demolition explosives and unserviceable (but not dangerously unserviceable) munitions may be transported by the same vehicle provided explosives and initiators are separated as much as possible and are in adequate transportation configuration. Upon delivery to the range the waste munitions are placed in one holding area and the initiating devices are put into a separate holding bunker at least 50 feet apart.

Operations at the EOD Range are suspended if there is a wildfire or lightning hazard within 5 nautical miles.

During the pre-operational safety briefing, the only authorized smoking area is identified. Spark producing items are collected during the safety briefing. No smoking is allowed during handling of explosives.

OB/OD operations, generate heat, pressure (shock waves), fires and explosions, and sometimes violent reactions. Andersen AFB is interpreting this requirement to mean that the intentional initiation of such phenomena must be carried out in a controlled setting, which is the intent of the OB/OD operation.

APPENDIX E – PREVENTION OF IGNITION OR REACTION

Documentation of Adequacy of Procedures (Part VI.A. [Adopts by reference 40 CFR 264.17] of the GHWMRs)

EOD Range operators are very familiar with the procedures to prevent accidental ignition or reaction of the waste munitions. In addition to the precautions found in the SOPs utilized on the range, EOD personnel spend much of their time in training exercises (Appendix D, Personnel Training). DOD-wide historical experience has shown that accidental detonation or combustion have been extremely rare when SOPs are strictly followed.

APPENDIX F

Contingency Plan

Table of Contents

HAZARDOUS WASTE CONTINGENCY PLAN
FOR EXPLOSIVE ORDNANCE DISPOSAL FACILITY
ANDERSEN AIR FORCE BASE, GUAM

1.0 INTRODUCTION

The purpose of the Explosive Ordnance Disposal (EOD) Facility Contingency Plan is to describe the actions that EOD personnel will take to minimize hazards to human health or the environment in response to any unplanned fires, explosions, or any sudden or non-sudden releases of hazardous waste (HW) or constituents. This EOD Contingency Plan is specifically for use during the treatment of ammunition/munitions items at the EOD Range. It applies to all assigned EOD personnel and others assisting in treatment operations. This EOD Contingency Plan does not cover the storage or transportation of the ammunition/munitions and is specific to operations at the EOD Range. *36th Wing Comprehensive Emergency Management Plan (CEMP) 10-2* provides a Basewide Contingency Plan for operations conducted at Andersen AFB.

HW treatment operations conducted at the EOD Range are not typical of normal RCRA treatment, storage, and disposal (TSD) operations. The wastes which are treated at an EOD Range are designated hazardous due to their reactive (explosive) characteristic. Treatment methods address the elimination of the explosive hazard of the waste. As such, the overriding operational concern is safety. Three types of emergencies are possible: 1) explosive, 2) fire, and 3) environmental. Environmental releases are unlikely for either explosive or fire emergencies. In either of these cases, human health and safety is the overriding concern. An environmental emergency would most likely consist of a virgin diesel fuel spill, which would be handled under procedures outlined in the Base Spill Prevention, Control and Countermeasure (SPCC) plan.

The EOD Contingency Plan is designed to minimize hazards to human health and the environment resulting from unplanned releases of hazardous materials associated with EOD operations.

Actions to Take in Case of Emergency (Part VI.A. [Adopts by reference 40 CFR 264.53 and 40 CFR 264.56] of the GHWMRs)

Figure 1 in the EOD Range Contingency Plan provides a flow chart of Emergency Response Actions for Andersen.

2.0 DEFINITIONS

2.1 EOD Range – The EOD Range, the unit to be permitted, is located at the extreme eastern reach of Tarague Beach, ending just before Tagua Point. The grid coordinates for the range are 13 Degrees, 35.58 minutes North, 144 Degrees, 56.48 minutes East. See Appendix G for the location. Its mission is to render unserviceable ordnance and other pyrotechnic devices

harmless by either open detonation or open burning, as well as to allow EOD personnel to maintain a proficiency in the operation of explosive actuated EOD tool sets.

2.2 Open Burning (OB) – Waste military energetic materials are burned in containment devices. Typically dunnage is placed into the bottom of the containment device and the OB materials are placed on top. Virgin diesel fuel is carefully added, and the initiating charges are placed on top. The device is secured with an ejection reduction device (e.g., chain link fence, steel perforated planking, etc.). Following final safety checks, the charge is initiated remotely.

2.3 Open-Detonation (OD) – Ammunition or explosives to be treated by detonation are placed on the ground at the base of the flight line cliff. An adequate number of initiating devices are placed on top of the items to be detonated. Following a final safety check, the items are detonated remotely. Maximum net explosive weight for all explosives will not exceed 600 pounds.

3.0 EMERGENCY RESPONDERS

3.1 Arrangements with Local Authorities (Part VI.A. [Adopts by reference 40 CFR 264.52] of the GHWMRs)

In the event of an emergency at the EOD Range, on-base police, fire department, and medical support personnel will provide the necessary coverage. 36 Wing CEMP 10-2 dictates the coordination and responsibilities of the response teams. These agencies are tasked to conduct personnel training to ensure that their response capabilities for an emergency at EOD Range are effective.

3.2 Names, Addresses, and Phone Numbers of Emergency Coordinators (Part VI.A. [Adopts by reference 40 CFR 264.52 and 40 CFR 264.55] of the GHWMRs)

The emergency coordinator will be known as the Incident Commander (IC). The initial IC will be the Range Safety Officer (RSO). If any emergencies are beyond the capabilities of the EOD personnel on site, IC will transfer to the Senior Fire Officer (SFO), once they are on-scene. The RSO will remain to advise the IC once command has transferred.

The IC will be thoroughly familiar with all aspects of the EOD Range Contingency Plan, all operations and activities at the range, the location and characteristics of wastes handled, the location of applicable records, and the facility layout. He/she is responsible for coordination of emergency containment, control, and cleanup activities during and after an uncontrolled release at the EOD Range. In case of an emergency he/she is the primary point of contact and is responsible for activation of a response team, as needed.

The following personnel are qualified to act as Emergency Coordinators/Incident Commanders for the EOD Range:

PRIMARY:

Fire Chief
36 CES/CEF, Unit 14007 APO AP 96543-4007
Duty Phone: 366-6201 Non-duty Phone: 366-5284

ALTERNATES:

Deputy Fire Chief
36 CES/CEF, Unit 14007 APO AP 96543-4007
Duty Phone: 366-6201 Non-duty Phone: 366-5284

Asst. Chief of Operations
36 CES/CEF, Unit 14007 APO AP 96543-4007
Duty Phone: 366-5284 Non-duty Phone: 653-5284

Chief, EOD Flight
36 CES/CED, APO AP 96543-4009
Duty Phone: 366-5198 Non-duty Phone: 366-2981

NCOIC, EOD Flight
36 CES/CED, APO AP 96543-4009
Duty Phone: 366-5198 Non-duty Phone: 366-2981

4.0 EMERGENCY EQUIPMENT

Location and Description of Emergency Equipment at the Facility (Part VI.A. [Adopts by reference 40 CFR 264.52] of the GHWMRs)

4.1 EOD Equipment – During EOD Range operation the following equipment is on-site:

- First Aid Kit
- Potable Water
- At a minimum, explosive laden vehicles will have two 2A:10BC ABC fire extinguishers
- 1 communication radio per vehicle
- Two, 2 way portable hand held radios
- 2 shovels

Emergency equipment is inspected before and after all OB/OD operations. During the safety briefing, prior to EOD Range operations, the location of

all emergency equipment is reviewed with the EOD team. The portable radios are continually monitored during an EOD operation The location and number of vehicles present during the operation is also noted. Each explosive laden vehicle at the EOD Range contains 2 easily accessible, 2A:10BC ABC fire extinguishers as well as a vehicle radio.

4.2 Fire Equipment – In the event of a fire emergency on the EOD Range beyond the capacity of EOD equipment, Andersen Fire Department would be alerted. The Fire Department would respond to the EOD Range area with the equipment required to mitigate the situation, as determined by the SFO.

This equipment is located at Fire Protection Flight, Building 17002, on Andersen AFB, and available for emergency response to the EOD Range. Estimated time of response to the EOD Range is approximately 8 – 10 minutes.

4.3 Environmental Equipment – During the open burning treatment of HW, approximately ten to twenty gallons of virgin diesel fuel is used per burn. The possibility exists that a small amount of fuel could spill. EOD personnel would remove any contaminated sand and treat it in the burn containment device. If an environmental response is required that is beyond the capabilities of the EOD personnel, the Base environmental spill team can be activated by the Fire Department.

The spill response vehicle is located on Base at the Civil Engineering Squadron, Building 18001 parking lot. It is equipped with personal protection devices and spill containment. Heavy equipment for soil removal are located at the Heavy Equipment Shop, Building 20021.

5.0 EVACUATION PLAN

Evacuation Plan for Facility Personnel (Part VI.A. [Adopts by reference 40 CFR 264.52] of the GHWMRs)

5.1 EOD Range – There is only a limited number of personnel on the range during operations. In most emergency situations, the safest position for people is the personnel bunker. This is the position from where the detonations are initiated for both OB and OD operations. This bunker provides cover from explosives ejecta for detonations and open burns up to the range safety limit.

The only possible situation, in which personnel would commence evacuation of the range, would be where a fire has engulfed unexploded ordnances in the immediate vicinity of the personnel bunker. In this case, the personnel on the range would evacuate by foot or by vehicle to the

small arms range and regroup at the emergency phone. If the Fire Department was required, and had not been contacted by radio, they would be contacted by the small arms range emergency phone.

5.2 Base – A Base wide evacuation plan is not applicable to this operation. Unlike a typical RCRA Treatment, Storage, and Disposal (TSD) operation, the EOD Range has an established safety zone surrounding the treatment area. This safety zone encompasses the maximum distance that detonation/burn fragments will travel in accordance with a maximum net explosive weight for all explosives that will not exceed 600 pounds.

6.0 CONTINGENCY PLAN COPY LOCATION

Location and Distribution of Contingency Plan (Parts X.A. and VI.A. [Adopts by reference 40 CFR 270.14 and 40 CFR 264.53] of the GHWMRs)

Copies of the Contingency Plan as well as any updates or revisions to the plan will be located at the following places:

EOD Flight Office
EOD Range Binder
CEV Environmental Flight
Fire Protection Flight
Medical Clinic
Security Police
Emergency Response Spill Team
Emergency Operations Center
Bioenvironmental Office
Safety Flight

7.0 EMERGENCY RESPONSE PROCEDURES

Immediate Procedures for Emergency Coordinator to Alert All Facility Personnel in Case of Emergency and Notify State and Local Agencies If Help Is Needed (Part VI.A. [Adopts by reference 40 CFR 264.56(a)] of the GHWMRs)

Any person who detects an imminent or actual fire, explosion, or any other unplanned sudden or non-sudden release of HW or constituents will immediately sound a vocal and/or radio warning to endangered personnel.

Upon detection of an emergency incident the situation will be immediately reported to the EOD Range Safety Officer (RSO). Once the RSO declares an emergency, they are known as the Incident Commander (IC). The IC will evaluate the incident to determine the potential for endangerment to human health and/or the environment. The EOD Contingency Plan will be implemented immediately by the IC in the event that there is an

accident at the EOD Range which could result in the release of HW or constituents that could threaten human health or the environment.

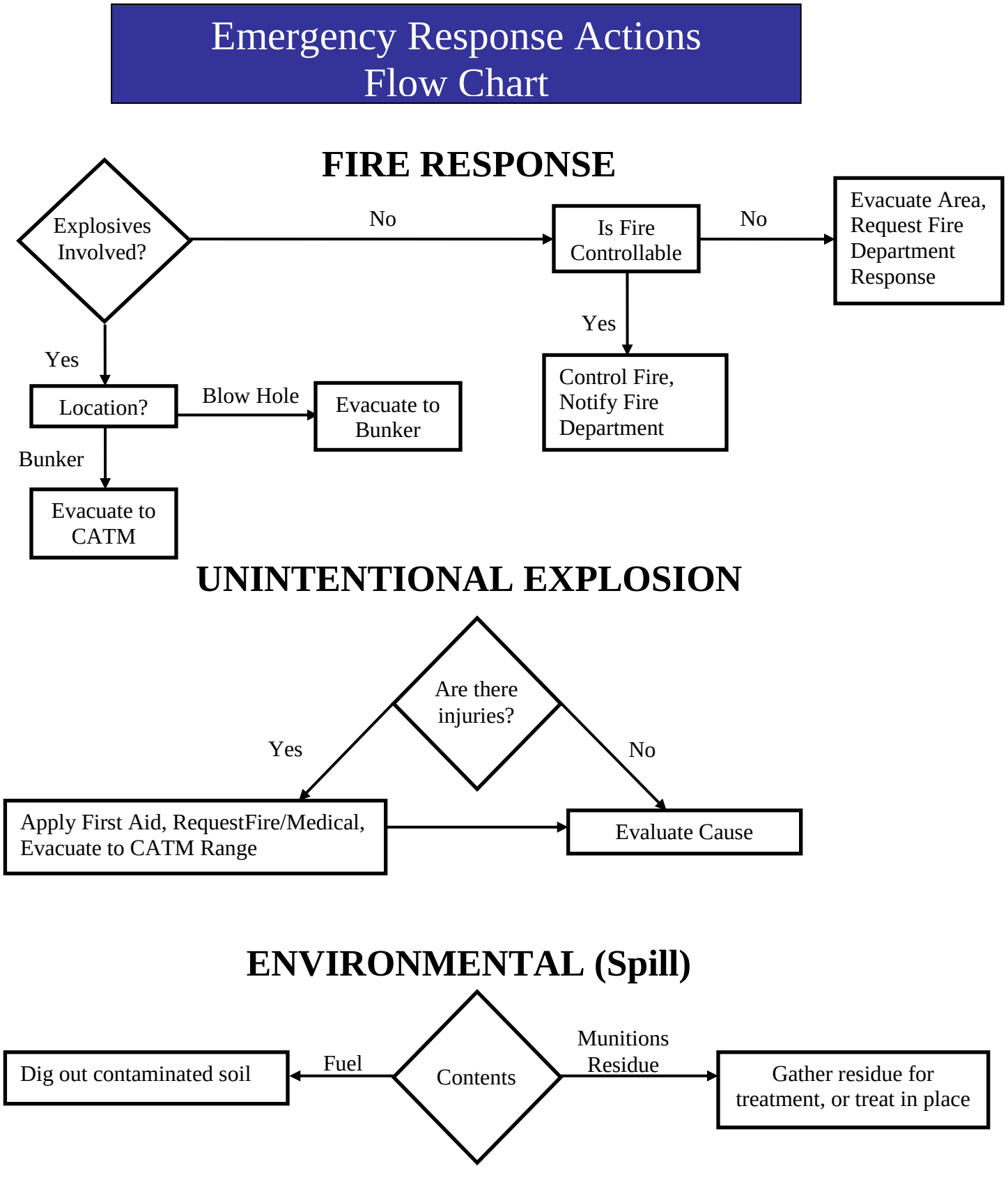
The IC will be thoroughly familiar with all aspects of the EOD Range Contingency Plan, all operations and activities at the Range, the location and characteristics of wastes handled, the location of applicable records, and the facility layout. The IC is responsible for coordination of cleanup activities in the event of an uncontrolled release of HW at the EOD Range. The emergency procedures outlined in 36 WGI 32-3001, Attachment 3 will be followed to dispose of any uncontrolled HW releases.

EOD Range personnel will be used to initially respond to spills and other cleanup operations in terms of initial defensive actions. The Andersen Air Force Base Spill Prevention and Response Plan will be implemented immediately upon a spill incident. In the event of an emergency at the EOD Range that is beyond the response capabilities of EOD personnel, Andersen Fire Department will be notified by the IC. Once Fire Department gets on-scene, IC will transfer to the Senior Fire Officer. The RSO will remain with the IC to advise him/her. The IC will direct operations as needed to ensure that the situation is brought under control.

Dependent on the nature of the emergency, the IC will provide appropriate notification to on-base offices or teams, who will aid in the emergency response (e.g., medical personnel, spill team, etc). All emergency response teams that may be called upon to provide emergency service are located on base. The emergency response actions for implementing the EOD Range Contingency Plan are illustrated in Figure 1.

Figure 1

Emergency Response Actions Flow Chart



8.0 IDENTIFICATION OF HAZARDOUS MATERIALS RELEASED

Plans for the Emergency Coordinator to Identify the Character, Source, Amount, and Areal Extent of Any Explosion, Fire, or Release (Part VI.A. [Adopts by reference 40CFR 264.56] of the GHWMRs)

The IC will identify the characteristics and hazards of the fire, explosion, or release by knowledge of process or container contents, observation, or documented analytical information.

9.0 ASSESSMENT OF POSSIBLE HAZARDS TO HUMAN HEALTH OR THE ENVIRONMENT

Means for Assessment of Possible Hazards to Human Health or the Environment from an Explosion, Fire, or Release (Part VI.A. [Adopts by reference 40 CFR 264.56] of the GHWMRs)

Upon determining that the facility has had an explosion, fire, or release that could threaten human health or the environment, the OSC is responsible for assessing the nature of the threat. Both direct and indirect effects of the explosion, fire, or release must be considered during the assessment. The criteria to be used to assess a possible hazard to human health or the environment and the need for evacuation or other measures will be largely qualitative. The following criteria should be considered:

a) The nature and magnitude of the explosion, fire, or release;
b) Weather (e.g., wind direction and speed) and other conditions at the time of the explosion, fire, or release;
c) The possibility that the explosion, fire, or release may result in the spreading of additional explosions, fires, or releases, and,
d) The possible threat to human health and/or the environment from an explosion, fire, or release.

Procedures to be Followed by Emergency Coordinator in Case of a Threat to Human Health or the Environment Outside the Facility (Part VI.A. [Adopts by reference 40 CFR 264.56] of the GHWMRs)

The EOD Range is located in an isolated area on a secure base. Therefore, the possible threat to human health or the environment outside the facility is limited. If the assessment indicates the need for evacuation, the IC will coordinate with the appropriate military authorities.

10.0 PROCEDURES TO PREVENT EXPLOSIONS, FIRES, RELEASES

Procedures to be Followed by Emergency Coordinator to Prevent Fires, Explosion, or Release from Occurring, Recurring, or Spreading to Other Hazardous Wastes at the Facility (Part VI.A. [Adopts by reference 40 CFR 264.56] of the GHWMRs)

During an emergency, the OSC will take all reasonable measures necessary to ensure that explosions, fires, and releases do not occur, recur, or spread to other hazardous waste at the facility. The guidance established in the 36 WGI 32-3001, provides EOD Range personnel with procedures to follow to prevent explosions, fires, or releases from occurring, recurring, or spreading to other hazardous waste at the facility. Historically, procedures developed for the treatment of hazardous waste munitions at DOD facilities have ensured the safety of EOD personnel.

10.1 Fire Hazards - In the event of an uncontrolled fire at the EOD Range, the IC will attempt to maintain control of the situation through the implementation of the EOD Range Contingency Plan, if necessary. Due to the inherent danger associated with EOD operations, fire prevention is an important safety concern. Fires involving explosives are extremely dangerous and can react in an unpredictable manner. Some explosives exposed to fire will burn, detonate, or a combination of both. The following factors should be considered when fighting fires involving explosives:

- Personnel risk
- Safety of others in the immediate area
- Loss of valuable equipment
- Loss of other explosives

For fire emergencies that do not involve explosives, the initial fire-fighting response is from EOD Range personnel. Fires beyond the capabilities of EOD Range fire-fighting equipment will require notification and response by Andersen Fire Department.

10.2 Spills - The hazardous waste is a containerized solid (bomb cases, shells) until its actual burn/detonation, limiting the potential for spills. The only potential for a liquid spill would be the virgin diesel fuel used to ignite the OB. The procedures outlined in the Andersen AFB Spill Prevention and Response Plan (also known as SPCC) provides information on the actions that would be required to protect human health and the environment in case of a spill involving diesel fuel. Small volumes (10-20 gallons) of virgin diesel fuel are utilized for the OB; any contaminated sand would be immediately shoveled up for proper disposal as petroleum-contaminated soil.

11.0 STORAGE AND TREATMENT OF RELEASE MATERIAL

Storage, Treatment, and Disposal of Released Material (Part VI.A. [Adopts by reference 40 CFR 264.56] of the GHWMRs)

Immediately following an incident, the IC will make arrangements for the treatment and disposal of recovered waste, waste residues, and any contaminated materials. It is often considered unsafe to transfer or containerize spilled explosives. If conditions permit, the material will be detonated in place. If the IC determines that it is safe to move any spilled material, it will be collected and re-detonated at the OD pit in accordance with 36 WGI 36-3001.

12.0 MONITORING

Monitoring for Leaks, Pressure Buildup, Gas Generation or Ruptures of Released Material (Part VI.A. [Adopts by reference 40 CFR 264.56] of the GHWMRs)

The EOD Range does not incorporate equipment that would require monitoring for leaks, pressure buildup, or gas generation. All equipment that is on on-site is inspected before and after any OB/OD operations.

13.0 INCOMPATIBLE WASTE

Procedures for Preventing Handling of Incompatible Wastes Until Cleanup is Complete (Part VI.A. [Adopts by reference 40 CFR 264.56] of the GHWMRs)

The IC will ensure that no waste that might be incompatible with the released materials is treated until cleanup procedures are complete. This decision is made based on the chemical and physical characteristics of the waste.

14.0 DECONTAMINATION PROCEDURES (Part VI.A. [Adopts by reference 40 CFR 264.56] of the GHWMRs)

Following an emergency response, the IC will ensure that all equipment is decontaminated, as necessary. Equipment decontamination will be accomplished in accordance with CES/CEV (Environmental Flight) direction. Prior to EOD operations resuming, any emergency equipment used during an emergency response will be clean and ready for its intended use.

15.0 NOTIFICATION AND REPORTING PROCEDURES

Procedures for Record Keeping and Reporting to EPA (Part VI.A. [Adopts by reference 40 CFR 264.56] of the GHWMRs)

15.1 Base Authorities – *Air Force Instruction 91-204*, Investigating and Reporting US Air Force Mishaps provides SOPs for reporting explosives and chemical agent mishaps. In the event of a mishap on the EOD Range a USAF Hazard Report, AF Form 457, is completed and submitted to the Safety Flight Office.

The fire protection flight retains a computer log of all emergency response. The reports must be prepared and submitted according to directions provided in DOD 6055.7-M, Fire Incident Reporting Manual.

CEV Environmental Flight is contacted by the Fire Department to identify any possible environmental damage, and, if applicable, receives a spill report.

15.2 Regional and Federal Notifications – Dependent upon the nature of the Incident, other agencies may require notification. If the incident is a threat to human health or the environment, the National Spill Response Center (800) 424-8802 must be notified. An emergency release into the ocean requires notification of the U.S. Coast Guard, Guam EPA, and the Division of Aquatic and Wildlife. U.S. Fish and Wildlife requires notification of a HW emergency release if the possibility exists for potential impact to endangered species.

A written report of the emergency incident which required implementation of the EOD Contingency Plan must be submitted to Guam EPA within 15-days of the incident. The report must include, at a minimum, the following information:

- Name, address, and telephone number of the owner or operator;
- Name, address, and telephone number of the facility;
- Date, time, and type of incident (e.g., fire, explosion);
- Name and quantity of material(s) involved;
- Extent of injuries, if any;
- Where applicable, an assessment of actual or potential hazards to human health or the environment; and
- Estimated quantity and disposition of recovered material that resulted from the incident.

This report must be submitted to:

Administrator
Guam Environmental Protection Agency
P.O. Box 22439 GMF
Barrigada, Guam 96921
Attn: Air and Land Division

16.0 AMENDMENTS AND REVISIONS TO THE EOD RANGE CONTINGENCY PLAN

The EOD Range Contingency Plan will be reviewed annually and amended as required. Amendments may be required whenever the following occurs:

- The EOD Range Permit is revised;
- The plan fails in an emergency;
- A change occurs in EOD Range operations, design, or other circumstances that would increase the potential for an emergency or changes the response necessary in an emergency;
- A change in the list of emergency coordinators; or
- The list of emergency equipment changes.

Review of this Plan will involve input/sign-off from the following people:

CEV Environmental Flight
Fire Protection Flight
EOD Flight
Commander, 36 Civil Engineer Squadron

17.0 REFERENCES

36th Wing Instruction 32-3001, Attachment 3
36th Wing Comprehensive Emergency Management Plan 10-2 Andersen AFB SPCC Plan

Appendix G

Closure and Post-Closure Plan

APPENDIX G – CLOSURE AND POST – CLOSURE PLAN

Closure and Post-Closure Plan

Closure Plan Documentation (Part X.A. [Adopts by reference 40 CFR 270.14(b)(13)] of the GHWMRs)

Introduction

The purpose of this closure plan is to describe the procedures and methods by which the open burning/open detonation (OB/OD) units and surrounding area of the Andersen AFB Explosive Ordnance Disposal (EOD) Range will be closed in accordance with the Resource Conservation and Recovery Act (RCRA).

This plan describes the OB/OD units, decontamination and sampling procedures, health and safety requirements during closure, and the approximate closure schedule. This plan includes a Sampling and Analysis Plan (SAP) and a Quality Assurance Project Plan (QAPP) to be implemented at time of closure. (Attachment 1)

This closure plan is based on the achievement of clean closure of the facility. If clean closure cannot be achieved, this closure plan will be revised to include post-closure care requirements and restrictions. It will then be submitted to the appropriate regulatory agencies for review and approval.

Location and Description of OB/OD Operations Facility

The EOD Range has been operated exclusively for EOD purposes since the time (> 20 years) of its designation by Andersen Air Force Base. No operations other than OB/OD are conducted at the EOD Range. The mission of the range has been to render unserviceable ordnance and other pyrotechnic devices harmless by either suppressed detonation or open burning, as well as to allow EOD personnel to maintain a proficiency in the operation of explosive-actuated EOD tool sets. In addition, the range has been used for emergency purposes.

The EOD Range is located at the extreme eastern reach of Tarague Beach, just west of Tagua Point. The grid coordinates for the OD units are 13 degrees, 35.58 minutes north, 144 degrees, 56.48 minutes east. The active treatment units are provided with a 2,400-foot-radius safety zone, above and below the cliff line. The location of the treatment unit and the 2,400-foot-radius safety zone are delineated in Figure 2-12.

The active open detonation units are located at the extreme eastern edge of Tarague Beach. They consist of two pits, each located directly along the face of an approximately 30-foot tall cliff. Due to previous detonations, the cliff has been hollowed out slightly. Rocks which have been removed during previous detonations are piled on either side of the active OD units. Detonation of the munitions at the cliff face provides for additional safety with respect to directing the destructive force of the detonation away from occupied areas. Open detonations consist of placing the waste munitions in the OD pit, placing detonating charges (to initiate the detonation of the waste munition) and ignitors (to initiate the detonating charges). Detonation is remotely initiated from the personnel bunker.

The inactive open burning pit was located directly on the beach in the sand in an area free of vegetation. It is approximately 80 feet north of the jungle (with a sharp rise), 150 to 190 feet south of the Pacific Ocean, and approximately centered east-west within the open range area.

The open burning units are operated in a different manner than the open detonation units. The open burning operations are characterized by: flammable dunnage (wood) is placed in the burn kettle for fuel and to provide air to the fire. Next, the waste munitions are placed in the burn kettle. These materials are then soaked with 10 - 15 gallons of fresh diesel fuel. An ignition device is placed in the burn kettle. The munitions are then remotely activated from the personnel bunker.

Open burning in the active OB unit was conducted in a burn kettle. This kettle was approximately 4 feet in diameter and 5 feet tall. The OB pit in which the burn kettle was placed was roughly 45 feet long by 14 feet wide by 6 feet deep.

Previous to 1992, the open burning operations at Andersen AFB EOD Range were not contained in a burn kettle, but were burned on the ground within the pit.

Applicability of Closure and Post-Closure Care Regulations

1. All owners or operators of hazardous waste management facilities must prepare closure plans describing how each open burning and open detonation at the facility will be closed.

2. The hazardous waste management unit operated after November 18, 1980 (OB/OD units) at Andersen Air Force Base EOD Range is considered hazardous waste management units, since they treat reactive waste.

3. Therefore, the closure requirements under Part VII.A. [Adopts by reference 40CFR 264.110 – 264.120 (Subpart G)] of the GHWMRs are applicable to this facility.

Post-closure care regulations are applicable to Hazardous Waste Management Units that cannot be "clean closed" and must be closed in place. The post-closure care period for each unit that is closed in place must begin as soon as the unit is closed and must continue for 30 years (or other as specified in the permit).

It is the intention of this closure plan to achieve clean closure, thereby eliminating the requirement for post-closure care requirements.

Closure Requirements

This plan describes the steps and techniques to completely close the Explosive Ordnance Disposal (EOD) Open Burning/Open Detonation (OB/OD) Range. This document has been prepared in accordance with Parts VI.A. and X.A. [Adopts by reference 40 CFR 264 Subpart X, Miscellaneous Units, 40 CFR 270.14(b)(l3), and 40 CFR 264 Subpart G] of the GHWMRs requirements.

Andersen AFB Environmental Flight Office will maintain a copy of this closure plan, including all revisions, at least until certification of closure.